2014 COMMAND ELEMENT ROADMAP

DEPUTY COMMANDANT FOR COMBAT DEVELOPMENT AND INTEGRATION

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UNITED STATES MARINE CORPS
2014 COMMAND ELEMENT ROADMAP

Headquarters Marine Corps Combat Development
& Integration (HQMC CD&I)

MESSAGE FROM DEPUTY COMMANDANT, COMBAT DEVELOPMENT & INTEGRATION (DC, CD&I)

UNITED STATES MARINE CORPS

The United States Marine Corps (USMC) operates in an environment that is increasingly complex, uncertain, and dynamic. Future conflict will be characterized by unclear, chaotic crises brought on by poverty, extremism, competition for resources, and the proliferation of modern weapons and information systems by both non-state actors and nation states. Employment of asymmetric strategies by potential adversaries and proliferation of advanced weapons and information technologies will create additional stresses on all elements of the force. The Corps must not only be responsive, but anticipate Geographic Combatant Commander (GCC) requirements, regardless of the region and nature of the crisis, while increasing its ability to integrate with joint and multinational forces. The Marine Air Ground Task Force (MAGTF) is well suited as a "middle-weight" force serving as an instrument of national power projection, and an afloat-ready crisis response force. Our national strategic focus is currently rebalancing toward the Asia-Pacific region, where the USMC has its deepest roots in amphibious operations, and will leverage lessons learned from operations in Iraq and Afghanistan.

The Corps must envision and embrace emerging domains and opportunities such as Cyberspace and fully integrate related capabilities into our combined arms toolkit. The Commander's arsenal will enable the defeat of the enemy, whether the enemy is hunger in a humanitarian relief operation, insurgents in regional stabilization operations, or enemy attack aircraft during a forcible entry operation. It is on this canvas that the Marine Corps will plan and integrate Command Element (CE) capabilities to promote agile, adaptive, and integrated skills to support a commander's ability to command and control (C2) the MAGTF. C2 serves as the commander's primary weapon system to execute the art and science of expeditionary maneuver warfare in the air, sea, or on land.

This Roadmap is intended to provide an evolutionary path forward for the CE while also sustaining linkages to the *FY* (Fiscal Year) *12* and *FY13 MAGTF C2 Roadmaps*. This document will provide timely and comprehensive information regarding CE issues to Advocates, Proponents, Capability Developers, the Acquisition Community, Commanders and most importantly, the Operational Forces (OPFOR).

Semper Fidelis,

Kenneth J. Glueck, Jr.

Lieutenant General, U.S. Marine Corps

Commanding General

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01 INTRODUCTION

1.1 COMMAND ELEMENT (CE) MISSION & VISION

Of the four elements of the MAGTF [the CE, Ground Combat Element (GCE), Aviation Combat Element (ACE), and Logistics Combat Element (LCE)], the CE exists exclusively to support the Commander's ability to command and control MAGTF forces in accomplishment of the assigned mission. All components of the MAGTF CE directly or indirectly contribute to the MAGTF Commander's ability to exercise effective C2. Though these components may appear functionally disparate, it is this aspect of promoting C2 in a fluid, uncertain, and quickly changing environment that allows us to integrate these elements under one Roadmap. Per Marine Corps Doctrinal Publication (MCDP) 1-0:

"The Command Element is the MAGTF headquarters. As with all other MAGTF Elements; the Command Element task-organizes to provide the C2 capabilities necessary for effective planning, execution, and assessment of operations. Additionally, the Command Element can exercise C2 within a joint force from the sea or ashore and act as a joint task force headquarters core element."

The Marine Corps must ensure that the CE of the future is able to support the six core competencies of the Marine Corps across the spectrum of conflict, in any environment or region of the world, which are identified in the Marine Corps Vision and Strategy 2025. These core competencies are:

1. Conduct persistent forward naval engagement and always be prepared to respond as the Nation's force in readiness.
2. Employ integrated combined arms across the range of military operations (ROMO) and operate as part of a joint or multinational force.
3. Provide forces and specialized detachments for service aboard naval ships, on stations, and for operations ashore.
4. Conduct joint forcible entry operations from the sea and develop amphibious landing force capabilities and doctrine.
5. Conduct complex expeditionary operations in the urban littorals and other challenging environments.
6. Lead joint and multinational operations and enable interagency activities.

The Commander's ability to conduct the six core competencies will rely heavily on effective C2. C2 is principally a human endeavor, and no amount of technology can replace the impact of the human dimension. As such, the C2 tenets of mission command, initiative, trust, focus, implicit understanding, leadership, planning, training, education, doctrine, and tactics, techniques and procedures (TTPs) heavily inform this *CE Roadmap.* We recognize and embrace uncertainty, fluidity, and disorder through our doctrine of decentralized command as espoused in MCDP-6, and recognize that the most significant element of C2 is Commander's Intent; and in turn, its understanding and dissemination.

Without losing sight of these non-materiel aspects of C2, the CE must also seek to field well integrated and leading edge technologies to best affect non-materiel strengths and support our Commander's ability to affect C2 on the battlefield while not ignoring the fiscal realities that shape our ability to develop, procure, and sustain such technologies. The next several years will present a daunting challenge requiring a delicately maintained balance between legacy systems, sustainment, and pursuit of emerging technologies focused on providing commanders the most comprehensive yet affordable tool set for the available resources. In summary, the CE must evolve with the changing characteristics of warfare due to technological advancements, as well as the strategic rebalance to the Pacific, in order to execute the requisite expeditionary, "middle-weight" Marine Corps core competencies anywhere in the world. To this end, Deputy Commandant, Combat Development and Integration (DC, CD&I) serves as the CE Advocate in order to integrate diverse capabilities and technologies.

1.2 CE ROADMAP EVOLUTION

With roots beginning in Marine Requirements Oversight Council (MROC)-Decision Memorandum (DM) 29-2005, the *FY12* and *FY13 MAGTF C2 Roadmaps* are precursors to a CE Roadmap. Figure 1.1 illustrates the evolution of published documents which have contributed to or informed the creation of the *2014 CE Roadmap.*

Figure 1.1: *Command Element Roadmap* Pedigree

1.3 CE ROADMAP PURPOSE

After more than a decade of operations in Iraq and Afghanistan, the Marine Corps developed capabilities that were not only essential to defeating the enemy while winning hearts and minds, but are critical for facing potential adversaries and conflicts in the 21st century. Maintaining and further enhancing these capabilities is a priority, especially for the unique capabilities for which the CE of a MAGTF is responsible, as well as the functional capabilities that are under the responsibility of the Command Element Advocate Board (CEAB). Capabilities such as Civil Affairs (CA) will prove to be of importance as this capability increases the Commander's ability to create ever-increasing dilemmas for the enemy. Cyber and Electronic Warfare capabilities provide opportunities to increase the asymmetric advantage and combined effects possibilities within the MAGTF. Additionally, the commander of a MAGTF must have effective command and control of Marine forces at all times, armed with accurate and timely information for making decisions and disseminating intent, even in a communications degraded or denied environment. The CE Advocate is responsible for developing a Roadmap per the United States Marine Corps Service Campaign Plan 2012—2020. As roles and responsibilities of the CE Advocate continue to be refined (as outlined in Section 2.1), this *CE Roadmap* is intended to chart a path forward; documenting and addressing CE issues and initiatives across the Marine Corps. The end-state is an enhanced, focused advocacy approach that will strengthen the ability of the Commander (and his CE) to exercise C2, and to prepare for the operations of the present and the impending future.

C2 remains a central focus area of this *CE Roadmap* as it is the primary weapons system at the disposal of the CE. As such, it is imperative to provide the status of each C2 Program of Record (POR) as they outline the full and detailed set of associated information and timelines for each POR in its support of the CE. Appendix A of this Roadmap contains a comprehensive set of MAGTF C2 POR quad charts and milestones tables. Aspects of the *FY12 & FY13 MAGTF C2 Roadmap* have been retained yet broadened in scope to more fully encompass the full CE spectrum; an evolution conceptualized to better accomplish the CE Advocate task. In addition to C2 POR status charts in Appendix A, Appendix B contains a select featured set of PORs that enhance the capabilities of the CE. While this initial grouping is small and in no way encompasses all of the critical PORs that contribute to the CE capability, this grouping can serve as an initial family of systems which the USMC expands upon as it prioritizes and determines capabilities that must be maintained from a materiel perspective in future iterations of this Roadmap.

Section 2 of this Roadmap discusses CE Advocacy, the purpose of the CEAB and the various stakeholders throughout the Marine Corps.

Section 3 of this Roadmap outlines the capability portfolio management (CPM) process for CE capabilities, the MAGTF C2 Portfolio and its respective capabilities going forward, the evolution of the C2 Portfolio out to FY20, as well as mapping CE Operational Advisory Groups (OAG) and Working Groups (WG) to their current Marine Corps Capabilities.

Figure 1.2: *USS Bonhomme Richard*

Section 4 of this Roadmap discusses current and future initiatives for each CE functional area based on combined proponent stakeholders, commanders, and OPFOR inputs, and from OAGs and WGs as seen through the scope of Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF).

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02 CE ADVOCACY & TRANSITION

2.1 CE ADVOCATE ROLES & RESPONSIBILITIES

The CE Advocate, DC, CD&I represents the MARFOR Headquarters and MAGTF CEs in various internal and external processes occurring within the National Capital Region (NCR). DC, CD&I will work together with the other Deputy Commandants (DC, Aviation [AVN]; DC, Installations & Logistics [I&L]; DC, Manpower & Reserve Affairs [M&RA]; DC, Plans, Policies & Operations [PP&O]; and DC, Programs & Resources [P&R]) and Department Directors {Director [Dir], Command, Control, Communications, and Computers [C4]; and Dir, Intelligence}, to provide expertise, insights, and coordinated recommendations to the Commandant in order to inform the Marine Corps and the Department of the Navy on issues facing the operating forces and specific functional areas. The CE Advocate provides a point of contact for MAGTF CE integration and synchronization, including:

- Afloat Communications & Networks*
- Civil Affairs (CA)
- Combat Camera (COMCAM)
- Command, Control, Communications and Computers (C4)
- Counter-Improvised Explosive Device (C-IED)
- MAGTF Electronic Warfare (MAGTF EW) (formerly Cyber / Electronic Warfare)
- MAGTF Fires (inclusive of ANGLICO)
- Marine Corps Force Development System*
- Maritime Expeditionary (Seabasing) Capabilities & Requirements*
- Information Management (IM)
- Information Operations (IO)
- Intelligence, Surveillance & Reconnaissance (ISR)
- MAGTF Staff Training Program (MSTP)
- Marine Corps Systems Command - Systems Engineering, Interoperability, Architectures & Technology (MCSC - SIAT)
- Public Affairs / Communication Synchronization (PA / SC)
- Red Teams*
- Religious Ministries (RM)
- Science & Technology (S&T)*
- Irregular Warfare
- Theater Security Cooperation (TSC)
- Training & Education

* Per MCO 5311.6, DC CD&I is now the advocate.

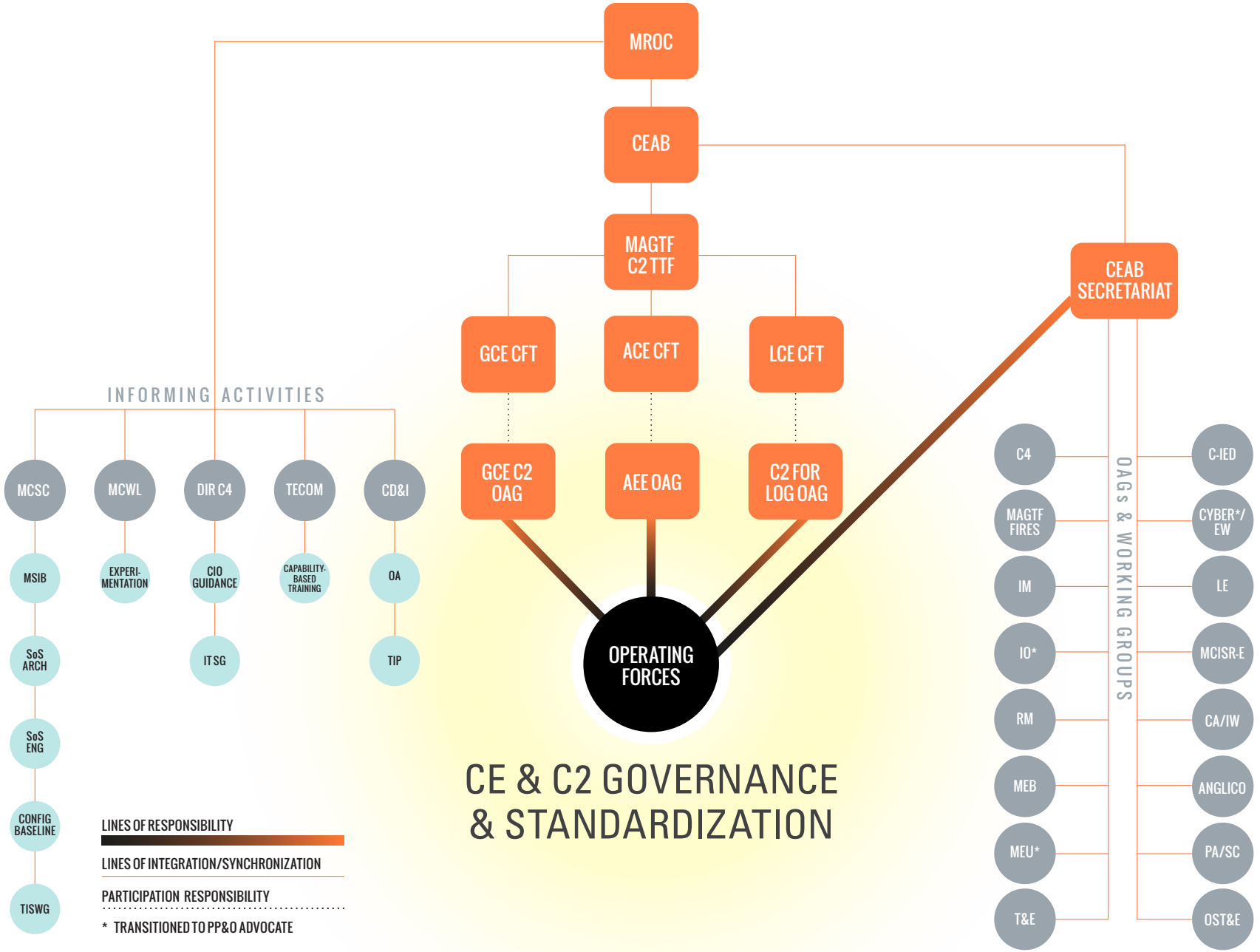
The CE Advocate serves as the conduit for CEAB recommendations to the MROC to achieve necessary programmatic and requirements synergy within the Marine Corps Force Development System (MCFDS). Marine Corps Order (MCO) 3900.15C is presently in draft and will replace the Marine Corps Expeditionary Force Development System (EFDS) with MCFDS. This *CE Roadmap* will reference MCFDS as part of the path forward for CE issues and initiatives. The MCFDS is the core, deliberate force development process for the Marine Corps. The coordinated process includes providing capabilities development guidance, conducting integrated capability planning and programming, and implementing solutions and assessing implementation effectiveness. In conjunction with other advocates, DC, CD&I will also identify cross-domain MAGTF C2 issues to achieve delivery of holistically developed and fielded C2 capability to the CE. Through a DOTMLPF perspective, the CE Advocate delivers capabilities to the CE and guides the CE plan to achieve the Commandant of the Marine Corps (CMC) vision.

2.2 CE ADVOCACY BOARD & GOVERNANCE

The CE Advocate relies heavily on OPFOR senior leadership to assist in framing issues and recommending solutions. This group of senior leaders is organized into the CEAB, which consists of both primary and adjunct members. CEAB decisions are the product of member contributions, discussions, analysis, and a thorough review of various Courses of Action (COA). The CEAB solicits input from the OPFOR and MARFOR HQs in order to best assess cross-cutting MAGTF and CE issues. This body also weighs current MAGTF synchronization challenges and provides direction for the CE to achieve the CMC'S Vision; by enhancing future warfighting capabilities for the MAGTF CE and the MAGTF as a whole. The graphic on the following page, *CE & C2 Governance & Standardization*, illustrates the inputs, informing activities, and the governance and standardization of the CEAB process.

The CEAB consists of the following members:

- Chairman: DC, CD&I
- Primary Members (voting)
  - Commander, MARFORCOM
  - Commander, MARFORCENT



CE & C2 GOVERNANCE & STANDARDIZATION

- Commander, MARFORPAC
- Commander, MARFORRES
- CG I Marine Expeditionary Force (MEF)
- CG II MEF
- CG III MEF

- Adjunct Members (non-voting, as needed):
  - Commander, MARFORCYBER
  - Commander, MARFORSTRAT
  - Commander, MARFOREUR
  - Commander, MARFORAF
  - Commander, MARFORSOUTH
  - Commander, MARFORNORTH
  - Commander, MARFORSOC
  - CG, 1st MEB
  - CG, 2d MEB
  - CG, 3d MEB
  - DC Aviation (AVN)
  - DC Installations and Logistics (I&L)
  - DC Manpower and Reserve Affairs (M&RA)
  - DC Plans, Policies and Operations (PP&O)
  - DC Programs and Resources (P&R)
  - CG Training and Education Command (TECOM)
  - Commander, Marine Corps Installations Command
  - Commander, Marine Corps Systems Command (MCSC)
  - Director, Capabilities Development Directorate (CDD)
  - Director, Command, Control, Communications and Computers (C4)
  - Director, Futures Directorate / Commanding General Marine Corps Warfighting Laboratory (MCWL)
  - Director, Intelligence (I)
  - Program Executive Officer, Land Systems (PEO LS)

The CEAB guides and oversees the operation of OAGs and / or WGs on a continuing basis and exercises administrative oversight of the following OAGs:

- Air / Naval Gunfire Liaison Companies (ANGLICO)
- Civil Affairs / Irregular Warfare (CA/IW)
  - Combat Camera (COMCAM)
- Command, Control, Communications, and Computers (C4)
- Counter-Improvised Explosive Device (C-IED)
- Electromagnetic Spectrum Operations WG
- MAGTF Fires
- Information Management (IM)
- Information Operations (IO)*
  - Military Information Support Operations (MISO) WG
- Law Enforcement (LE)
- Marine Corps Intelligence, Surveillance and Reconnaissance Enterprise (MCISRE)
- Marine Expeditionary Brigade (MEB)
- Marine Expeditionary Unit (MEU)*
- Operational Science, Technology and Experimentation (OST&E)
- Public Affairs / Strategic Communication (PA/SC)
- Religious Ministries (RM)
- Training and Education (T&E)

Each OAG / WG charter is reviewed annually to ensure it continues to meet its formative need. Subordinate OAG / WGs operate in synchronization with the CEAB to ensure relevant and timely inputs to the MCFDS / Acquisition / Program Objective Memorandum (POM)-processes. While each OAG / WG forms its own agenda and respective outputs, synchronization with the CEAB comes to bear when issues raised by a respective OAG / WG require DC, CD&I action or influence on the MCFDS / Acquisition / POM-processes. The MAGTF C2 Transition Task Force (TTF) serves as the conduit through which the OAGs and WGs provide information and recommendations to the CEAB, while

* Transitioned to PP&O

utilizing the Cross Functional Teams (CFTs) for cross-cutting issues to ensure maximum impact on capability development.

The CEAB reviews CE, MAGTF synchronization, and other issues in an effort to address OPFOR concerns through both the Marine Corps and Joint processes beginning with the MCFDS and comporting to the Joint Capabilities Integration Development System (JCIDS). CE issues deal primarily with the ability of the CE to C2 the MAGTF. MAGTF synchronization issues are those that require harmonization of both the DOTMLPF approach and the channeling of that approach within the Capabilities Based Assessment (CBA) process as an element of the MCFDS. This synchronization is imperative to combat development across the MAGTF elements and throughout the POM cycle.

As the role of the CE Advocate continues to evolve as part of the MCFDS process, the advocate's influence on the process is also evolving. The CE Advocate continues to refine the CEAB role and processes to provide recommendations on issues that transcend any single element of the MAGTF. While the CEAB's purview was originally focused on C2 [per the Executive Off-Site (EOS) decision of January 2011], its sphere of influence has since expanded significantly. Using the CEAB Council of Colonels (CoC) in a senatorial fashion, DC, CD&I convenes the CEAB CoC monthly to provide balanced recommendations on topics spanning the entire DOTMLPF spectrum.

Figure 2.1: AH-1Z and UH-1Y

During FY12, the CE Advocate developed the first CE Advocate Capability List (CE ACL), which was aggregated with those of the ACE, GCE and LCE to form the Marine Corps Capabilities List (MCCL). The CE ACL was derived through the inputs and engagement of the numerous OAGs, WGs, and IPTs supervised by the CE Advocate. This seminal product and the functions, capabilities and associated tasks, conditions and standards outlined in the document guided the development of the Command Element Advocate Gap List (CE AGL) through the gap analysis phase of the MCFDS. The FY12 CE ACL and AGL were re-evaluated in FY13 (rather than reissued) as FY13 was considered a review year in the MCFDS process. These integrated, updated products [i.e., MCCL and Marine Corps Gaps List (MCGL)] provide the foundation of the activities conducted in the MCFDS process and will be further integrated with the tenets of Capability Portfolio Management (CPM) to produce the Marine Corps Enterprise Integration Plan (MCEIP). This Roadmap will serve as the guiding and central document (in concert with the MCCL and MCGL) with which to communicate CE capabilities and gaps to capability developers and the acquisition community in the future.

2.3 EVOLVING FOCUS & FORCE STRUCTURE

Informed by strategic and service guidance (including Cooperative Strategy 21st Century and Expeditionary Force 21st Century), the attributes of the future force, force structure reviews, fiscal realities, and a clear-eyed assessment of the future operating environment, we are reorganizing some of our CE structures at the operational and tactical levels with a major tenet being a focus on the MEB. MEBs will supercede the MEFs as our primary focus for capability development. This includes the establishment of Joint Task Force (JTF)-capable MEB CEs that are regionally focused to meet the needs of the GCCs. It also includes the increased use of smaller MAGTFs and other task-organized forces that are already forward or that can be rapidly deployed as the building blocks for compositing the subordinate elements of a MEB that is cohesive, agile, and scaled to the mission at hand.

2.3.1 MARINE COMPONENT COMMANDS

MARFORCOM will maintain its current role as a service retained component command MARFOR CE with the primary responsibility of global force management. Additionally, the MARFORCOM HQ in Norfolk, VA will merge with the II MEF CE, and the new MARFORCOM / II MEF HQ will command 2d MARDIV, 2d Marine Aircraft Wing (MAW), 2d Marine Logistics Group (MLG), and 2d MEB. Additionally, the MARFORCOM / II MEF headquarters will command Marine Corps Security Forces Regiment, Chemical Biological Incident Response Force, Marine Corps Security Cooperation Group, Forces

Headquarters Group, and Headquarters and Service Battalion.

MARFORRES, located in New Orleans, LA, will maintain its current role as the service retained commander for reserve forces and proponent for the Marine Corps Reserve.

MARFOREUR and MARFORAF staffs, located in Stuttgart, Germany, will combine and serve two commanders until the merger of MARFORCOM and II MEF, at which time the Commander, MARFORCOM / II MEF will serve as the Commander, MARFOREUR/AF.

COMMARFORPAC, located at Camp H.M. Smith, HI, will maintain its current role as the Marine Component Command to COMUSPACOM. COMMARFORPAC also serves as the U.S. Marine Corps Component Commander (Designate), United Nations Command (COMUNC) / Commander, U.S. Forces Korea (COMMARFORK) and Commanding General, Fleet Marine Forces, Pacific (CG FMFPAC), a Type Commander under operational control (OPCON) of the Commander, U.S. Pacific Fleet (COMPACFLT). COMMARFORPAC has also been designated, by COMUSPACOM as the Executive Agent for the Armed Forces of Philippines Capabilities Development Program.

MARCENT, located in Tampa, FL, will maintain its current role as the Marine Component Command to CENTCOM. MARCENT will continue to develop options to relocate to the area of responsibility (AOR) in support of the COCOM theater objectives. The U.A.E is the preferred location and this concept includes the integration of the MARCENT (FWD) CE to form a single CE with a separable JTF capable CE.

Until the vision described above takes place, MARCENT CE FWD, a one star JTF capable CE located in Bahrain will continue to function under OPCON of MARCENT fulfilling the tasks assigned in MCBUL 5400.

The Commander, MARCENT remains a dedicated assignment.

MARFORK, located in Yongsan, ROK, is the peacetime Marine Component Headquarters for United States Forces Korea (USFK). The senior USMC officer assigned to USFK, (currently the C / J5) is designated COMUSMARFORK (Armistice). During armistice, COMMARFORK is also the U / C / J5 for the United Nations Command / Combined Forces Command (UNC / CFC) and USFK. During wartime, COMMARFORK transfers command to COMMARFORPAC, which provides the wartime commander and staff augmentation as required.

The Deputy Commander MARFORCOM / II MEF will serve as the Commander, MARFORSOUTH.

MARFORNORTH, located in New Orleans, LA, will maintain its current role as the Marine Component Command to NORTHCOM. The Commander MARFORRES will serve as the Commander, MARFORNORTH.

MARSOC, located in Camp Lejeune, NC, will maintain its current role as the Marine Component Command to SOCOM.

MARFORCYBER will maintain its current role as the Marine Component Command to CYBERCOM.

2.3.2 MARINE EXPEDITIONARY FORCES

I MEF, based in Camp Pendleton, CA will be focused on maintaining proficiency in major operations and campaigns. I MEF commands 1st MARDIV, 3d MAW, 1st MLG, and 1st MEB as well as 11th, 13th, and 15th MEUs. For planning, training, and exercise purposes, each MEB CE will establish habitual relationships with the expeditionary strike group (ESG), carrier strike groups (CSGs), and other Navy counterparts focused on the same region.

II MEF will merge with MARFORCOM to form a combined, non-deployable MARFORCOM / II MEF CE in Norfolk, VA.

III MEF, located in Okinawa, Japan, will remain regionally focused on that theater and designated as a standing JTF headquarters for U.S. Pacific Command (PACOM). III MEF commands 3d MARDIV, 1st MAW, 3d MLG, and 3d MEB as well as 31st MEU.

2.3.3 MARINE EXPEDITIONARY BRIGADES

The MEBs will be organized and equipped in order to be capable of exercising command and control of joint and multi-national task forces and capable of integration with the Navy for the conduct of amphibious operations. For planning, training, and exercise purposes, each MEB CE will establish habitual relationships with the ESG, CSG, and other Navy counterparts that will likely be employed in the same region.

1st MEB, based in Camp Pendleton, CA will be focused toward U.S. Central Command (CENTCOM). It will also support Global Response Force (GRF) requirements. The 1st MEB CE is embedded within the staff of I MEF. It will maintain a close association with ESG 3 as well as other Navy operating forces focused on the same region.

2d MEB, based at Camp Lejeune, NC is a standing MEB CE and will be regionally focused toward AFRICOM, EUCOM, portions of SOUTHCOM and the Levant Region of CENTCOM. Although planning for this construct is ongoing, as a proof of concept, when not deployed 2d MEB will command 22d, 24th, and 26th MEUs as well as be responsible for forming and training Special Purpose Marine Air-Ground Task Force (SPMAGTF)s. 2d MEB will also support GRF requirements. 2d MEB will maintain a close association with ESG 2 as well as other Navy operating forces focused on the same region.

3d MEB, based in Okinawa, Japan is a standing MEB CE regionally focused to PACOM. It will maintain a close association with ESG 7 / Amphibious Force U.S. Seventh Fleet as well as other Navy operating forces focused on the same region.

2.3.4 MARINE EXPEDITIONARY UNITS

MEU CEs are standing HQs that in addition to their traditional role of commanding and controlling MEUs designed to deploy aboard the three-ship Amphibious Ready Group (ARG), will be capable of serving as the CE of a SPMAGTF afloat or ashore. Each MEU will maintain a close relationship with its associated amphibious squadron (PHIBRON) and supporting elements from the PHIBRON's ESG to include the naval beach group, assault craft units, beach master unit, amphibious construction battalion, tactical air control squadron.

Current Guidance for Employment of the Force requires a 1.0 MEU presence in the CENTCOM AOR due to the importance and volatility of the region. In order to maintain a 1.0 presence, it may require a MEU from any MEF to temporarily deploy to the CENTCOM AOR until a I MEF MEU can arrive. These MEUs will maintain habitual relationshpis with their associated PHIBRON: PHIBRONs 1, 3, and 5 as appropriate.

11th, 13th, and 15th MEUs, based in Camp Pendleton, CA are standing CEs and will deploy to AORs in accordance with GEF priorities. These MEUs will maintain expertise in CENTCOM and PACOM operations.

22d, 24th, and 26th MEUs, based at Camp Lejeune, NC are standing CEs and will deploy to AORs in accordance with GEF priorities. These MEUs will maintain expertise in AFRICOM, EUCOM, SOUTHCOM and CENTCOM operations. These MEUs will maintain habitual relationshpis with their associated PHIBRON: PHIBRONs 4, 6, and 8 as appropriate.

31st MEU based in Okinawa, Japan is a standing MEU CE regionally focused to PACOM. 31st MEU maintains a close working relationship with PHIBRON 11.

2.4 FORCE POSTURE

The Corps will focus on three MEBs as the principal organizations for planning, providing forces for, and conducting steady-state activities, and responding to crises or contingencies. The MEBs will be organized and equipped to exercise command and control of joint and multi-national task forces and to integrate with the Navy for the conduct of amphibious operations.

The MEUs will evolve to accommodate changes in basing, capability, and capacity, as well as the exploration of alternative ship mixes, prepositioned equipment, and complementary force packages. The MEUs will be resourced to operate in an aggregated manner with a capability for disaggregated operations in response to official tasking with appropriate command and control assets and arrangements to accomplish a wide range of steady-state security activities, as well as provide an immediate response to emergencies and episodic crises. When required, MEUs will composite with other forward forces to perform contingency operations. The MEUs and their associated amphibious ready groups (ARG / MEUs) will continue to provide forward presence in key regions through a combination of forward basing and rotational deployments.

Special Purpose MAGTFs (SPMAGTFs) will be established to generate greater capacity for forward presence in a wider number of locations. These organizations will be tailored and scaled appropriately to provide continuous forward steady-state security cooperation, military engagement, and immediate response to episodic crises and contingencies.

The EUCOM / AFRICOM AOR will have geographically dispersed MAGTF(s) for steady-state engagement and crisis response. Each MAGTF may be embarked in single amphibious ships or exploit other combinations of shipping and / or basing ashore. The 2d MEB CE will focus on this region to support steady state activities and crisis response with the ability to serve as a higher headquarters to already forward deployed forces or forces deployed from CONUS.

The CENTCOM AOR will have one rotational ARG / MEU and a SPMAGTF primarily tailored for crisis response. This SPMAGTF will have a secondary mission of conducting security cooperation with allies and partners in the region. The 1st MEB CE will be will be regionally focused on the CENTCOM AOR to support steady-state activities and crisis response.

The PACOM AOR will have a forward-based 31st MEU augmented by additional ARG / MEUs as they transit to CENTCOM. Additionally, units from I MEF and MARFORCOM / II MEF will rotationally deploy to PACOM where, as part of III MEF, they may conduct a variety of steady-state and crisis response activities. To do so they may be task-organized under 3d MEB or SPMAGTFs and be employed from amphibious ships, alternative platforms, or expeditionary locations ashore in locations such as Australia, The Philippines, Okinawa, or Guam.

The SOUTHCOM AOR will have a rotational Marine Crisis Response Force (MCRF- South) and Security Assistance Teams (SATs). These organizations will be relatively small and focused on the reinforcement of U.S. State Department facilities. Additionally, other episodic forces may conduct maritime interdiction of transnational criminal organizations and building partner capacity of regional allies. When required, SPMAGTFs may also be established in this AOR to conduct specific activities, such as the UNITAS series of security cooperation events. MARFORRES will focus on this region for theater security cooperation activities and to meet most GCC requirements leveraging appropriate activation authorities.

In the NORTHCOM AOR, units of I MEF, MARFORCOM / II MEF, and Marine

Corps Forces Reserve may be tasked to provide support to civil authorities in national emergencies.

03 CAPABILITY PORTFOLIO MANAGEMENT

3.1 CAPABILITY PORTFOLIO MANAGEMENT

Capability Portfolio Management (CPM) integrates capability development activities while managing existing capabilities in order to optimize resources, inform investment planning, and promote cross portfolio DOTMLPF decision making. CPM is the framework for actuating CMC strategic guidance that balances near and long-term risk across the Marine Corps. Its 10-year objective will drive the Marine Corps Enterprise Capability Management Plan (ECMP). CPM will align capabilities to Joint Capability Area (JCA) portfolios and facilitate the integration of capabilities within and across these portfolios. This 2014 CE Roadmap will inform CPM and other HQMC processes to provide a streamlined foundation for informed decision making, address the 2014—2022 timeframe, and focus on the POM-16 investment cycle. As the Marine Corps moves forward in a post Operation Iraqi Freedom (OIF) / Operation Enduring Freedom (OEF) era and a fiscally constrained environment, several areas must remain in focus as capabilities are developed and employed for the MAGTF to most effectively maintain and evolve its capabilities as a whole.

CE CPM must enable capabilities of C2 programs, while also considering the role of CE functional area capabilities. Inputs from the Commanders, OAGs, and WGs play a major role in informing DC, CD&I with regards to the CE CPM process—and this Roadmap is, in part, a result of such efforts. Capabilities must be analyzed to ensure that the Marine Corps is not only able to fulfill its six core competencies, but also consider the requirements of and impact to amphibious / expeditionary operations, sustainment, and desired vs. required capabilities and modernization. As the "middle-weight" crisis response force, the Marine Corps must not only be able to respond as a MAGTF, but be able to expand the ability to command and control forces in joint and coalition operations.

3.2 COMMAND ELEMENT CAPABILITIES LIST

The CE ACL Version 1.0, February 2012 is an integral element of the MCFDS and was incorporated as such with the other ACLs (i.e., ACE, GCE, and LCE) into the MCCL which is the initial product utilized to guide the Capabilities Based Assessment (CBA) and is the foundation of our capabilities development and capabilities-based budgeting processes. Version 1.0 of the CE ACL was developed to support the POM-15 CBA process. The POM-16 CBA was conducted as a review year process and, as such, a new CE ACL was not developed. Future iterations of the CE Roadmap will include the CE ACL.

The CE ACL provides the warfighter, and the capabilities and acquisition development communities, with a comprehensive view of the capabilities and tasks associated with the CE mission inherent to the MAGTF. DC, CD&I is responsible for maintaining the content of this document through the integration of many OAGs and WGs (including and representing the operating forces and supporting establishment). The CE ACL serves to document the integrated approach taken in considering the Marine Corps as an enterprise while focusing on the CE as the principle C2 element of the MAGTF.

Advocate ACLs are distilled into the MCCL through Advocate, OPFOR and CDD Integration Division (ID) representation and interaction. The MCCL in turn enables each advocate to determine the capability gaps that comprise their individual AGL. Similarly, the four AGLs are then fashioned into a MCGL. The MCCL and the MCGL will influence and shape the Capability Investment Plan (CIP), which is Chapter 8 of the Marine Corps Enterprise Integration Plan (MCEIP). The MCCL, MCGL, and CIP comprise the annual MCEIP.

3.3 COMMAND ELEMENT FUNCTIONAL AREA CAPABILITIES

While the CE ACL maps the CE functional areas to Marine Corps capabilities, the following table shows the Functional Area OAGs / WGs mapped to capabilities in the MCCL distilled from JCAs, and illustrates current capabilities as a starting point for POM-16 programming and POM-17 planning. The mapping includes Primary and Enabling capabilities, where an Enabling capability is supporting a capability in conjunction with another capability. This table will be updated annually to ensure the CE Roadmap continues to serve as an effective reference and planning tool. For a list of capability definitions and Marine Corps descriptions, please refer to Appendix D.

CE OAG Capabilities (POM-16)

MCCL ID #	CAPABILITY	OPERATIONAL ADVISORY GROUPS															
		C4	CA/IW	C-IED	MAGTF FIRES	CYBER*/ EW	IM	MCISRE	IO*	PA/SC	ANGLICO	MEU*	MEB	T&E	RM	OST&E	LE
1.1	Force Management	E															
1.2	Force Preparation			P				E						E			
1.3	Human Capital Management																
2.1	Plan & Direct Intelligence Operations	E		P		P		P									
2.2	Collect Data & Information Needed to Develop Intelligence		P	E		P		P									
2.3	Process & Exploit Collected Intelligence			P		P		P	E								
2.4	Analyze, Predict, & Produce Intelligence					P		P									
2.5	Disseminate & Integrate Intelligence	E				P		P									
3.1	Maneuver Forces	E		E				P				E	E				
3.2	Engage Targets		P	P	P		P	P	P		P	P	P				
3.3	Combat Engineering											E	E				
4.1	Provide Deployment & Distribution Support											E	E				
4.2	Provide Supply Support																
4.3	Maintain Equipment																
4.4	Provide Logistics Services														P	P	
4.5	Provide Contracting Support																
4.6	Conduct General Engineering		P														
4.7	Base & Installation Support	E					E										P
4.8	Provide Health Services																

KEY/LEGEND P = Primary Capability E = Enabling Capability

*Transitioned to PP&O

MCCL ID #	CAPABILITY	OPERATIONAL ADVISORY GROUPS															
		C4	CA/IW	C-IED	MAGTF FIRES	CYBER*/ EW	IM	MCISRE	IO*	PA/SC	ANGLICO	MEU*	MEB	T&E	RM	OST&E	LE
5.1	Organize	E	P		P		P	P	P		P	P	P				
5.2	Understand		P		P	P	P	P	P			P	P				
5.3	Conduct Planning		P		P	E	P	P	P		P						
5.4	Decide							E				E	E	E			
5.5	Direct Execution	E	P		P	P		P			P	P	P	P			
5.6	Monitor	E			P	P	E	P	P			P	P	P			P
6.1	Transport Information	P		E		P	P	P				P	P				
6.2	Provide Enterprise Services	P															
6.3	Manage Networks	P			P	P	E	P									
6.4	Provide Information Assurance	P				P		P									
7.1	Prevent Attack			P		P		E	P			P	P				P
7.2	Mitigate Effects			P		P	P	E				P	P				P
8.1	Engage Target Audiences		P	P	P	P		E	P	E		E	E		P		
8.2	Shape		P					P	P	P						P	
9.1	Advisory & Compliance													E			
9.2	Strategy & Assessment																
9.3	Information Management	E					P	P									
9.4	Acquisition & Technology															P	
9.5	Program, Budget, & Finance																

KEY/LEGEND P = Primary Capability E = Enabling Capability

*Transitioned to PP&O

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3.4 MAGTF C2 PORTFOLIO EVOLUTION

The Commander's primary weapons system is the ability to command, control, disseminate intent, and conduct assessment. All C2 capabilities must provide the Commander with a streamlined ability to communicate intent and technically provide controls in order to outpace enemy decision cycles. The strategy for developing and fielding MAGTF C2 addresses the fundamental need to support the operational C2 requirements that are specific to the expeditionary, task-organized nature of MAGTF operations. Maintaining the viability of our MAGTF C2 capabilities requires an understanding of the fiscal landscape, other warfighting function portfolios, and the needs of the warfighter. This challenge lies at the center of CPM and necessitates a refined approach to break down the MAGTF C2 portfolio (see Figure 3.1, right) by interdependent functions, as outlined in the FY12 and FY13 MAGTF C2 Roadmaps. Categorizing the MAGTF C2 portfolio by function eases the ability to understand the aggregate capability provided and the interdependency among elements providing that capability. Such a categorization also provides insight into how these systems and applications, enterprise services, and networking and transmission systems are leveraged across the Marine Corps and are developed in a System of Systems (SoS) methodology. Anticipating increased austerity, the MAGTF C2 portfolio must respond with efficient and innovative ways to reduce sustainment costs while conducting selective modernization. Figure 3.1 shows the MAGTF C2 portfolio as it exists today, categorized by Families of Systems (FoS).

The chart on the next two pages illustrates MAGTF C2 Portfolio evolution from FY10 – FY20. It may be considered a "collapse strategy" in that it shows the efficiencies realized by phasing out, merging, or creating a new, improved POR. Efficiencies by no means suggests a loss of capability but rather the result of smart investments and enhanced capabilities within the portfolio.

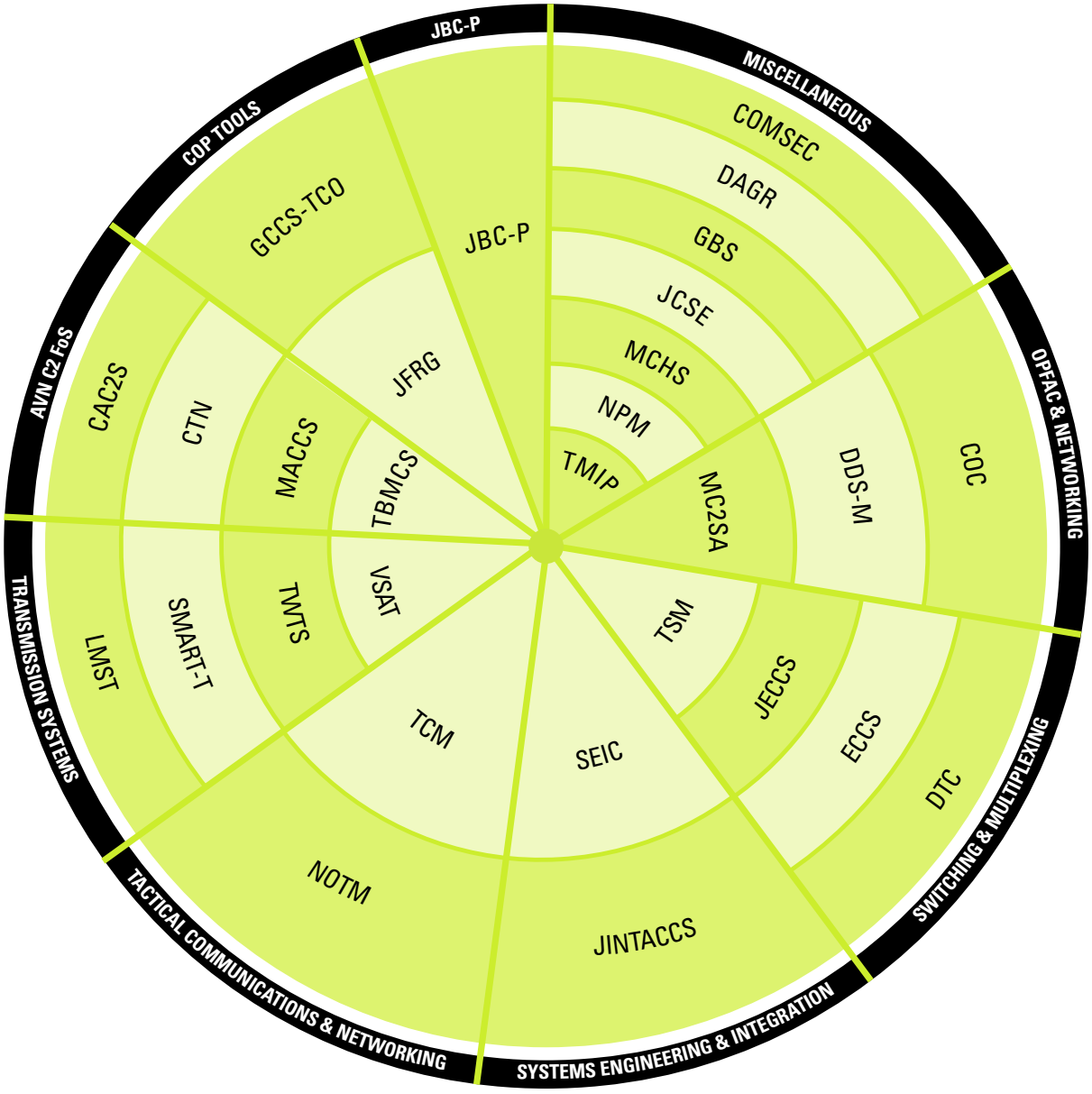
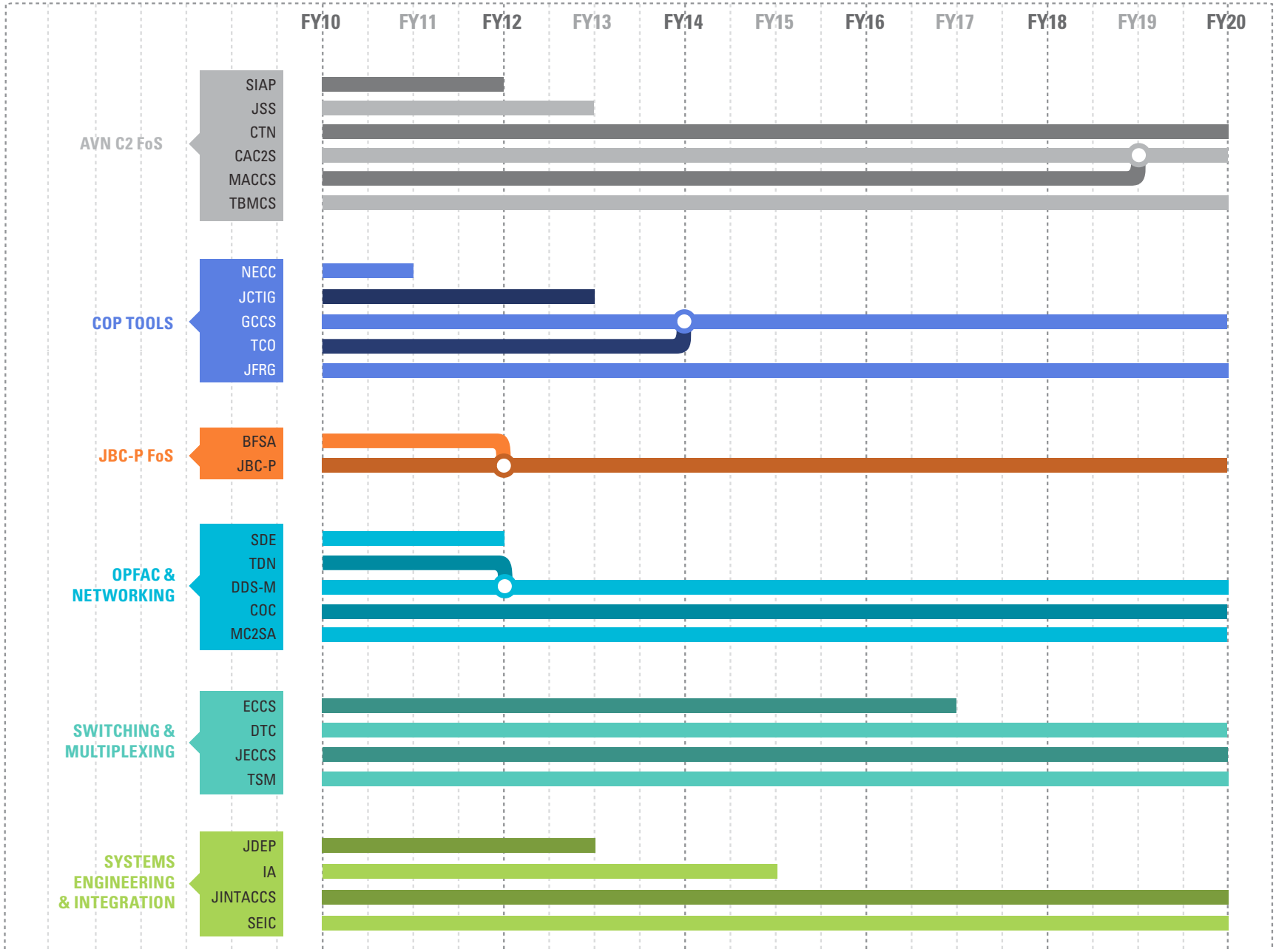
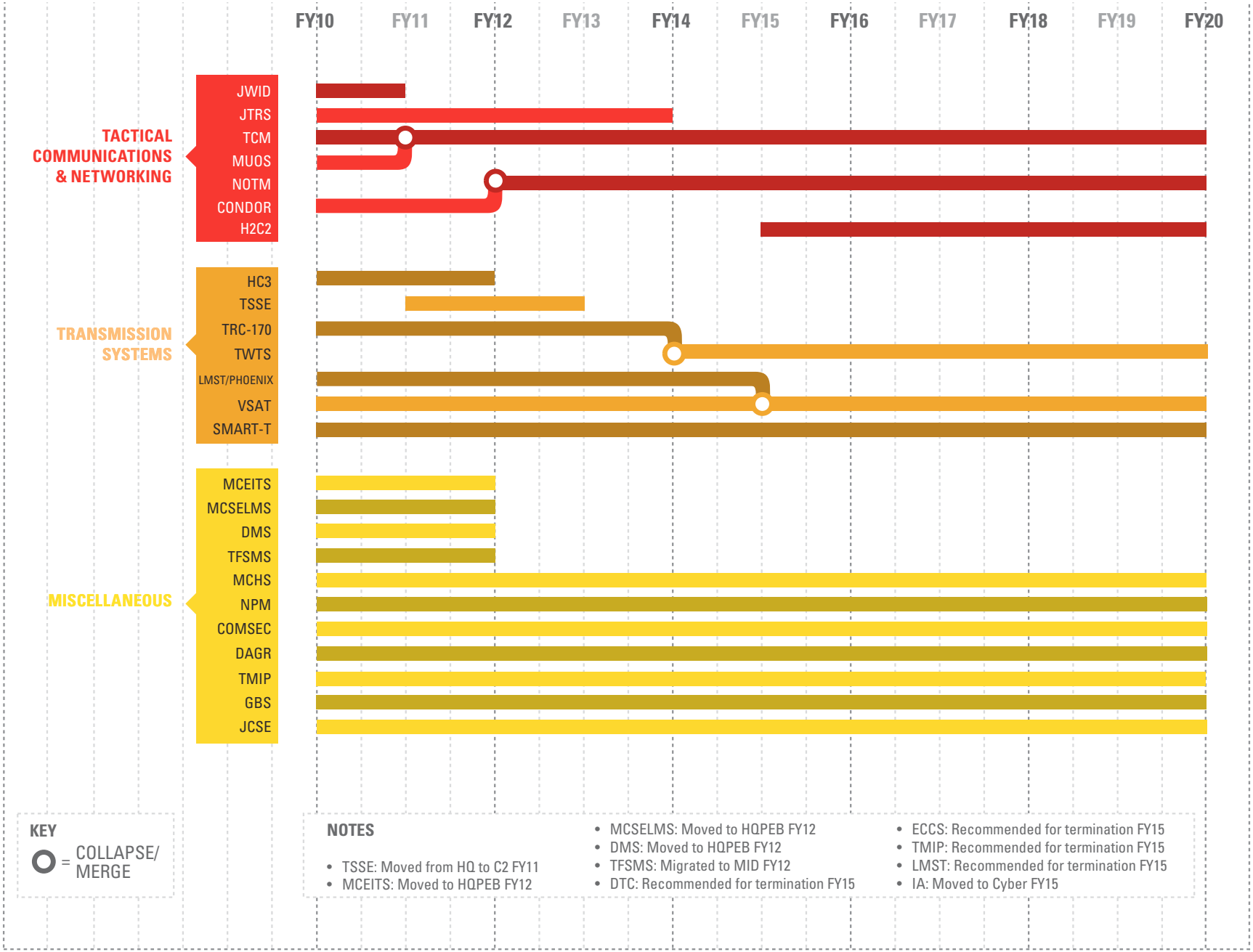


Figure 3.1: MAGTF C2 Portfolio

MAGTF C2 Portfolio Evolution




FY10
FY11
FY12
FY13
FY14
FY15
FY16
FY17
FY18
FY19
FY20
TACTICAL COMMUNICATIONS & NETWORKING
JWID
JTRS
TCM
MUOS
NOTM
CONDOR
H2C2
TRANSMISSION SYSTEMS
HC3
TSSE
TRC-170
TWTS
LMST/PHOENIX
VSAT
SMART-T
MISCELLANEOUS
MCEITS
MCSELMS
DMS
TFSMS
MCHS
NPM
COMSEC
DAGR
TMIP
GBS
JCSE
KEY
= COLLAPSE/ MERGE
NOTES
• TSSE: Moved from HQ to C2 FY11
• MCEITS: Moved to HQPEB FY12
• MCSELMS: Moved to HQPEB FY12
• DMS: Moved to HQPEB FY12
• TFSMS: Migrated to MID FY12
• DTC: Recommended for termination FY15
• ECCS: Recommended for termination FY15
• TMIP: Recommended for termination FY15
• LMST: Recommended for termination FY15
• IA: Moved to Cyber FY15

3.5 MAGTF C2 PORTFOLIO CAPABILITIES

The following table maps the MAGTF C2 Portfolio to current Marine Corps capabilities and serves as a tool for POM-16 planning. Each POR is mapped with a either a Primary or an Enabling capability. For a list of capability definitions and Marine Corps descriptions, refer to Appendix C.

Figure 3.2: Marines on patrol

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MAGTF C2 Portfolio Capabilities (POM-16)

C2 PORTFOLIO BIN	POR	4.8 PROVIDE HEALTH SERVICES	5.1 ORGANIZE	5.2 UNDERSTAND	5.3 CONDUCT PLANNING	5.4 DECIDE	5.5 DIRECT EXECUTION	5.6 MONITOR	6.1 TRANSPORT INFORMATION	6.2 PROVIDE ENTERPRISE SERVICES	6.3 MANAGE NETWORKS	6.4 PROVIDE INFORMATION ASSURANCE	9.4 ACQUISITION & TECHNOLOGY
Aviation Command & Control FoS	CAC2S		E	P	P	E	E	E	P				
	CTN			P					P				
	MACCS		E	P		E	E	E	P				
	TBMCS				P	E	E	E					
Common Operating Picture Tools	GCCS-TCO			P	E								
	JFRG		P	E	E								
Joint Battle Command-Platform FoS	JBCP-BFT		E	P	E	E		P					
Miscellaneous	COMSEC											P	
	DAGR			P									
	GBS								P				
	JCSE								P	E	E		
	MCHS									P			E
	NPM										P	E	
	TMIP*	P											
Operations Facilities & Networking	COC			P	P								
	DDS-M								P	P	P	P	
	MC2SA			P	P					P			

KEY/LEGEND P = Primary Capability E = Enabling Capability

KEY/LEGEND P = Primary Capability E = Enabling Capability

C2 PORTFOLIO BIN	POR	PROVIDE HEALTH SERVICES 4.8	ORGANIZE 5.1	UNDERSTAND 5.2	CONDUCT PLANNING 5.3	DECIDE 5.4	DIRECT EXECUTION 5.5	MONITOR 5.6	TRANSPORT INFORMATION 6.1	PROVIDE ENTERPRISE SERVICES 6.2	MANAGE NETWORKS 6.3	PROVIDE INFORMATION ASSURANCE 6.4	ACQUISITION & TECHNOLOGY 9.4
Systems Engineering & Integration	JINTACCS												P
	SEIC												P
Switching & Multiplexing	DTC**								P	E			
	ECCS***								P	E	P		
	JECCS								P	E	P	P	
	TSM								P	E	P	E	
Tactical Communications & Networking	NOTM								P		P		
	TCM			E					P				
Transmission Systems	LMST								P				
	SMART-T								P				
	TWTS								P				
	VSAT								P				

* Theater Medical Information Program (TMIP) has migrated to the Logistics Integration Division (LID) portfolio.

** Digital Technical Control (DTC) has been recommended for cancellation during POM-15. As of the publication date for the CE Roadmap, a final decision has not been made on this recommendation. If this program is cancelled, the capabilities envisioned in DTC will be partially provided by Data Distribution System-Modular (DDS-M).

*** Expeditionary Command and Control Suite (ECCS) has been recommended for cancellation during POM-15. As of the publication date for the CE Roadmap, a final decision has not been made on this recommendation. If this program is cancelled, the capabilities envisioned in ECCS will be provided by the Very Small Aperture Terminal (VSAT) program.

04 CE FUNCTIONAL AREAS

CE Functional Area OAGs

1. Air / Naval Gunfire Liaison Company
2. Civil Affairs / Irregular Warfare
3. Command, Control, Communications & Computers
4. Counter-Improvised Explosive Device
5. Cyber & Electronic Warfare
6. Fires
7. Information Management
8. Information Operations
9. Law Enforcement
10. Marine Corps Intelligence, Surveillance, & Reconnaissance Enterprise
11. Marine Expeditionary Brigade
12. Marine Expeditionary Unit
13. Operational Science, Technology, & Experimentation
14. Public Affairs / Strategic Communications
15. Religious Ministries
16. Training & Education Command

As described in Section 2, CE Functional Areas are categorized by OAGs / WGs, which operate in synchronization with the CEAB to ensure relevant and timely inputs to the Marine Corps Force Development System (MCFDS) / Acquisition / POM-processes. Operationally, each of the 19 CE Functional Areas has a unique set of roles and responsibilities. This section will outline those roles and responsibilities and address their application across the full DOTMLPF spectrum.

4.1 AIR / NAVAL GUNFIRE LIAISON COMPANY (ANGLICO)

ANGLICO is a battalion (Bn) level command which provides MAGTF Commanders a liaison capability and an ability to plan, coordinate, employ, and conduct terminal control of MAGTF Fires in support of joint, allied, and coalition forces. Each echelon of the ANGLICO command structure is capable of providing the same support to joint, allied, and coalition forces that the Fire Support Team provides to Marine units with the addition of more robust fire support coordination capabilities.

Doctrine: ANGLICO does not have a doctrinal publication. The Marine Corps is currently establishing the standard for ANGLICO employment in concert with its capabilities. A way ahead is to "doctrinize" ANGLICO in the form of a Marine Corps Warfighting Publication that not only defines ANGLICO as an asset for the Marine Corps, but also helps Joint and Coalition Partners to understand what capabilities ANGLICO will bring to their organizations when utilized.

Organization: Based on Force Structure Review Group (FSRG) decisions, ANGLICO will lose the 3rd Brigade (BDE) Platoon in FY15 / 16. This loss is compensated by the activation of 6th ANGLICO in FY17 / 18. The Marine Corps must ensure the capability currently provided by the BDE Combat team is not lost during the transition.

Training: ANGLICO lacks the ability to train at the Brigade and Regimental level. The majority of ANGLICOs training exercises are for the Supporting Arms Liaison Team (SALT) and Firepower Control Team (FCT) level, and would also benefit from better access to simulations such as the Supporting Arms Virtual Trainer (SAVT) and Deployable Virtual Training Environment (DVTE).

Personnel: The Assistant Operations Officer is currently filled with a 7315 billet, which is an unmanned aircraft commander. This Military Occupational Specialty (MOS) does not have the MAGTF Fires background necessary to serve as the Assistant Operations Officer in ANGLICO. This structure will be better suited with a Marine who has Terminal Attack Controller experience. The Assistant Operations Officer position requires an understanding of Joint Terminal Attack Controller (JTAC) Tactics, Techniques, and Procedures (TTPs) that a 7315 does not currently possess. Currently, 0302/8002, 0802/8002, and 7502 are the primary and secondary officer MOSs of graduates from Fire Support Team School. As a result of the 175k reduction, the 7502 (Forward Air Controller / Air Officer) is to be the Assistant Operations Officer from 2014 onward.

4.2 CIVIL AFFAIRS

CA Marines support Stability Operations, which is one of the five principal methods of irregular warfare (IW). The Small Wars Center and Irregular Warfare Division (SWC / IWID) establishes an IW Community of Interest (COI) composed of representatives from DC, Plans, Policies and Operations (PP&O), DC, CD&I, Marine Forces Command (MARFORCOM), Marine Corps Intelligence Agency (MCIA), Training and Education Command (TECOM) and Marine Corps Systems Command (MCSC) to foster interaction and

Figure 4.1: 1st ANGLICO Marines

collaboration across the force and the MCFDS. The COI makes recommendations for change across the DOTMLPF pillars via the CEAB. The COI provides relative expertise and insight to DC, CD&I to assist in the development of concepts, future defense scenarios, POM cycles and plans. Via the Small Wars Center, the COI maintains professional relationships with joint, interagency, multi-national, training, education, intellectual, research, media, non-governmental, and international organizations that have an interest in IW. This COI fosters a better understanding of IW-related operations, training, education, and best practices.

Doctrine: Doctrinal initiatives currently supporting CA include the development of a USMC-Army dual-designated publication that supports core civil-military tasks, and an update to Marine Corps Warfighting Publication (MCWP) 3-33.1 MAGTF Civil Military Operations. The publications listed below are currently in development as of 26 Jul 2013:

- MCWP 3-33.1 Marine Air-Ground Task Force Civil Military Operations
- Marine Corps Reference Publication (MCRP) 3-33.1B Population Resource Control
- MCRP 3-33.1C CA Support to Foreign Humanitarian Assistance

Figure 4.2: A Marine winning hearts and minds

- MCRP 3-33.1D Nation Assistance
- MCRP 3-33.1F Civil Information Management

Organization: CA organizational initiatives are currently focused on increasing the MEF's surge CA capability, while establishing an organic Table of Equipment (T/E) for each of the MEF active component CA detachments. These efforts will enhance planning and execution and allow each CA detachment to train independently. Specific efforts include creating and aligning billets that further enhance CA capability throughout the institution. Current planning and status is outlined below.

There is a planned move by March 2014 to have seven active component 0531 Gunnery Sergeant CA billets migrate from Infantry Regiment CE T/Os to:

- MEB CE (3 billets)
- Marine Corps Civil Military Operations School (MCCMOS) (3 billets)
- SWC/IWID (1 billet)

There is an effort to stand up a G-9 structure within each Civil Affairs Group (CAG) to increase the CA related planning and execution capacity of each MEF. Instead of surging the MEF staff during major operations in an ad-hoc fashion, this structure would provide the MEF Commander a standardized CA capability.

A current analysis is being conducted to establish an organic equipment set along with support personnel within each of the three CA detachments. This would allow CA detachments to train independently and increase their operational effectiveness.

Training: CA MOS specific training is conducted at MCCMOS. There is a significant issue due to increased throughput resulting from the standing up of four CAGs, and the confluence of an anticipated reduction in school-house staff that are mobilized reservists. Analysis is currently underway to determine the exact number of instructors required for MCCMOS. Effective measures must be taken to address the anticipated deficiencies in school-house personnel.

Materiel: The Marine Corps Civil Affairs Information Management System (MARCIMS) is the only materiel initiative associated with CA and is managed by SWC/IWID. MARCIMS is currently on schedule to begin initial fielding in July 2014 and reach final operational capability in July 2015.

4.3 COMMAND, CONTROL, COMMUNICATIONS, & COMPUTERS (C4)

The C4 OAG vets issues of significant importance to the CEAB for review and decision. The OAG provides strong linkages among HQMC and its Activities, OPFOR Commands and the Marine Corps Supporting Establishment Commands. The OAG enables the C4 community of interest to speak with one voice on matters pertaining to C4 issues within the Marine Corps.

Doctrine: The people, procedures, and technologies that make up MAGTF C2 are all elements of the Marine Corps Information Enterprise (MCIENT). The MCIENT concept is significant to this document because it ties together the challenges, materiel solutions, people and process synergies, and the network that carries information between the materiel solutions. The Marines executing

C2 within the Marine Corps Information Environment (people and procedures) are dependent on the tools that reside in the Marine Corps Information Technology Environment (technologies / materiel solutions), which require a network (the MCEN) to connect them. The MCIENT concept enables a holistic view of how information is exchanged across all capability portfolios throughout the Marine Corps enterprise. The relation to doctrine is that the MCIENT concept changes the perception of Marine Corps communications in the broadest connotation, but it is currently only an element of the MCIENT strategy (refer to Chapters 1-3). Considering the scope and impact of the concept, the recommendation is to either include it in an update of MCDP-6, C2, or develop a new publication.

Materiel: Commercial Satellite Communications (SATCOM) Bandwidth, Marine Corps Program Code (MCPC)-600312, is an essential enabler of intra-MAGTF communications training that supports communications on the move, beyond line of sight communications, and over the horizon communications to the company level that facilitates Non-classified Internet Protocol Router Network (NIPRNET), Secret Internet Protocol Router Network (SIPRNET), voice over internet protocol (VOIP), and Cyber security defense in depth. It is also a critical enabler for conducting Humanitarian Assistance / Disaster Relief (HA / DR), Pre-deployment Training Program (PTP) within the operating forces, Marine Aviation Weapons and Tactics Squadron 1 (MAWTS-1), the Marine Corps Logistics Operations Group (MCLOG), and Marine Corps Tactics and Operations Group (MCTOG) in support of training, operations, and deployments.

4.4 COUNTER-IMPROVISED EXPLOSIVE DEVICE (C-IED)

The Improvised Explosive Device (IED) continues to be the number one threat to our Marines in combat in the Afghanistan Theater of Operations. More than a decade of combat and counterinsurgency operations in Iraq and Afghanistan has demonstrated the lethality of the IED. As Marines prepare for the future, it is critical to harness the knowledge and institutionalize the capabilities amassed during the past decade and recognize the IED threat, and the fact that networks that employ them will undoubtedly endure and proliferate. The IED has increasingly emerged as the weapon of choice for innumerable threat networks that span the globe. Regional and transnational threat networks use IEDs because they are cheap, readily available, easy to construct, and highly lethal. The ubiquitous nature of IED components and precursors, their low cost, and their strategic impact ensure the IED will remain a threat to our forward-deployed Marines for decades to come. The compelling and enduring nature of the IED threat requires constant vigilance in order to ensure that Marines are properly manned, trained and equipped to effectively counter the ever-evolving nature of the IED threat.

Doctrine: Marine Corps Interim Publication (MCIP) 3-17.02, MAGTF Counter-Improvised Explosive Device Operations, of 24 January 2011, provides commanders and battlestaffs a guide on how to coordinate C-IED efforts within the Marine air-ground task force. The publication offers guidance on how to form and train a C-IED cell, outlines roles and responsibilities of a C-IED working group, describes methods of attacking the IED threat network, details procedures on how to defeat the device, and provides direction on how to train the force. The MCIP provides a viable first step toward the holistic approach of the Marine Corps to defeating improvised explosive devices across the ROMO.

MCIP 3-34.03, IED Detector Dog (IDD) Operations of 10 February 2012, presents information focused on the requirements, training, and integration of canines for C-IED operations. The goal of the publication is to provide an easy-to-use reference for the IDD capability that is readily available to all levels of command, and provides commanders and IDD handlers an initial reference for the employment of canines as this capability matures.

Figure 4.3: Marines conducting a patrol in an IED environment

Organization: DC, CD&I serves as the Marine Corps Advocate for C-IED. Diretor, CDD serves as the Marine Corps Proponent for C-IED and assists the Advocate in representing the Marine Corps both internally and externally, and in identifying C-IED capabilities, gaps, and solution strategies. In his capacity as the Marine Corps Proponent and Coordinating Authority for C-IED, Director, CDD serves as the Chairman of the C-IED OAG.

Training: The focus of the Train the Force (TtF) line of operation (LOO) is to develop, manage, resource, implement and evaluate C-IED-focused training throughout the Marine Corps enterprise (e.g., Entry Level training, Skill Progression training, Individual & Collective training, Battle Staff training, etc.) and at each level of the MAGTF. TECOM is currently the service lead for the TtF LOO. Key components of the TtF LOO is to enable deploying forces to combat IED employment by attacking the network; integrating equipment and systems for C-IED operations; and enhancing their knowledge and proficiency of C-IED tactics, techniques, and procedures (TTPs). The identification of specific Defeat

the Device (DtD) training is under review based on future operations in a post OIF/OEF environment. The Marine Corps must ensure that post-OEF training enables deploying forces to combat IED threats.

Materiel: There are six JROC-approved enduring C-IED capabilities that must be addressed in any future C-IED solution strategy:

- Identify Networks that Employ and / or Facilitate IEDs
- Detect IEDs and / or IED Components
- Prevent and / or Neutralize IEDs
- Mitigate IED Effects
- Distribute IED Data across the Community of Interest
- Train C-IED Capabilities

Personnel: Because of the rapidly evolving and enduring nature of the IED threat, the Marine Corps needs to maintain an institutionalized capability that provides focused, responsive and innovative C-IED solutions to the OPFOR. The Marine Corps must fully resource and maintain a distinct organization focused solely on the current and future ID threat in order to indentify and facilitate the development of C-IED solution strategies, both materiel and non-materiel, that are fully informed by the collective inputs of the greater C-IED community of interest.

4.5 ELECTRONIC WARFARE (EW)

Marine Corps Cyberspace Operations across the full spectrum includes Department of Defense Information Networks (DODIN) Operations, Defensive Cyberspace Operations, and, when directed, Offensive Cyberspace Operations, in support of MAGTF, Joint, and combined Cyberspace requirements, in order to enable freedom of action across all warfighting domains, and deny the same to adversarial forces. Although Cyber has been moved to PP&O, it is discussed in this document for the sake of transition.

MAGTF EW encompasses the ability of the EW family of systems (FoS) to act in a collaborative manner to gain superiority of the electromagnetic environment, when and where the commander deems necessary, thereby ensuring Marines have unhindered access to the electromagnetic spectrum (EMS) while denying the enemy use of the same.

The Cyberspace Electromagnetic Spectrum Warfare Coordination Cell (CEWCC) coordinates the integrated planning and execution of Cyberspace operations (CO), electromagnetic spectrum operations (EMSO), and other information related capabilities (IRCs) in order to gain, maintain, and exploit operational advantage. The CEWCC may have a permanent staff to support the development of the MAGTF concept of operations, objectives, scheme of maneuver, relevant supporting plans, and operations orders as they pertain to spectrum related capabilities and coordinate activities that achieve freedom of action in the information environment, including Cyberspace and the EMS.

The 2010 Commandant's Planning guidance tasked COMMARFORCYBER with recommending options for increasing Marine Corps cyber warfare capability and capacity. One recommendation was a CBA led by the Cyber and Electronic Warfare Integration Division (CEWID) of CDD. Scope of this CBA encompassed all five categories of cyberspace operations as defined in the 2009 USMC Cyberspace Concept as: Network Operations (NO), Information Assurance (IA), Defensive Cyberspace Operations (DCO), Computer Network Exploitation (CNE) and Offensive Cyberspace Operations. This holistic approach provided the most effective way to achieve a comprehensive assessment resulting in analytically-based recommendations. The resulting CBA defined 34 capabilities, identified 90 gaps and 286 potential solutions. These results were summarized in the Marine Corps Cyberspace Operations Initial Capabilities Document (ICD) and validated by the Marine Corps Requirements Oversight Council (MROC) on 24 May 2012. The final recommendations of the ICD focus on the 28 best non-materiel solutions and the 10 best materiel solutions. The synchronized and prioritized development of the best solution recommendations will address 86 of the 90 identified gaps and result in the most effective increase in cyber warfare capability and capacity for the Marine Corps.

Doctrine: Doctrinal solutions as they pertain to Cyber / EW include:

- Review and / or development and validation of doctrine and TTPs sufficient for establishing and / or updating training objectives for all aspects of Marine Corps Cyberspace operations.
- Updating doctrine to address OCO tool employment to achieve synchronized effects through Cyberspace, while ensuring proper authorities are always followed.
- Development of doctrine to define the principles of Cyberspace operations and aid commanders in applying those principles to current and future operational environments across all lines of operations.

EW has an initiative to modify existing doctrine and Marine Corps Task Lists (MCTLs) to articulate the requirements for the CEWCC. This coordination cell should reside with the Force MAGTF Fires Coordination Center (FFCC) / Fire Support Coordination Center (FSCC) when ashore or Supporting Arms Coordination Center (SACC) when sea based. All Fire Support publications must be reviewed to reflect the addition of the CEWCC to the FFCC and FSCC.

Organization: On 30 November 2012 a Joint Chief of Staff (JCS) Tank Session approved the USCYBERCOM Force Planning Model for implementation during

2014-16 across the Services. The Marine Corps is required to support 579 billets (i.e., 373 Military, 155 Civilians, and 51 Contractors) to establish a Cyber Mission Force consisting of 13 teams. It is imperative to adjust the organizational construct to maximize effective use and employment of EW, define requirements, processes, capabilities and architecture to facilitate Electronic Warfare Battle Management (EWBM). The coordination of air and ground electromagnetic spectrum (EMS) operations will be accomplished via the CEWCC and Joint Electromagnetic Spectrum Operations (JEMSO) personnel where they can best synchronize desired effects. To ensure success, the CEWCC must be established with a smaller number of permanent staff that can be increased during deployments and other forward operations. The Counter RCIED (Radio-Controlled Improvised Explosive Device) Electronic Warfare (CREW) program currently has no Table of Organization (T/O)

Figure 4.4: Marine EA-6B

supporting sustainment or employment of CREW systems; one must be identified in order to provide advocacy within the MAGTF EW enterprise. At this time the Marine Corps supports USCYBERCOM Cyber Mission Force (13 teams made up of 373 military, 55 Civilians and 51 Contractors).

Training: In order to sustain / maintain operations at a high level, the Marine Corps will need to conduct training through several means, including:

- Establishing training and certification requirements for personnel developing technical Cyberspace operations solutions.
- Continued development of formal Defensive Cyberspace Operations course for communications officers and chiefs.
- Continuing to support Enterprise IT Service Management (EITSM), focusing on configuration management training.
- Developing training for network operations personnel to align audit, sensor, forensic, and incident management inputs for Cyberspace operations situational awareness using current collection and analysis tools.
- Incorporating Cyberspace operations doctrine and C2 in the curriculum for MARFOR / MAGTF commanders and staff officers
- Creating more realistic exercise scenarios challenging commanders at all levels to determine alternate communications schemes if part of their network is down or degraded.

The Cyber-Electronic Warfare Integration Division (CEWID) is modifying training regimens to incorporate an air-to-ground integration approach similar to the Close Air Support (CAS) and Tactical Air Control Party (TACP) constructs in that they will be on the permanent staff of the infantry units from the battallion to the Division. Company-level capability will be provided by a non-CYBER MOS cadre trained in user-level CEW capabilities. This non-CYBER cadre will consist of Marines of MOSs resident in the structure of the infantry company. Holistically, all EMS-reliant functionalities as stated in the Concept of Operations (CONOPS) [but at a minimum the Signals Intelligence (SIGINT) / EW, EA-6B and VMU personnel] should integrate programs of instruction to establish relationships and understand various EMS roles and responsibilities.

The MAGTF EW transition, which merges the 7588 and 7315 communities, calls for the creation of a 1000-level program of instruction that will be required for a Marine to receive the designation 7315 (MAGTF Unmanned Aerial System [UAS] / EW Officer). Near term, the final Period of Instruction (POI) is under MAWTS-1 review but will be taught at Marine Corps Air Station (MCAS) Cherry Point using Marine Tactical Electronic Warfare Training Squadron 1 (VMAQT-1) spaces. When VMAQT-1 deactivates the transition plan calls for the retention of the instructor cadre in order to continue using those spaces in Cherry Point for 1000-level UAS EW instruction.

Training and readiness manuals must be modified to facilitate all EMS employment techniques. The Marine Corps needs to identify those opportunities to integrate JEMSO training across all EMS functionalities, to include other Services, Joint organizations and Combat Support Agendas, and create a program of formal instruction to develop MAGTF EW professionals. MAGTF EW assets should also be tasked to provide “red” and “blue” force

training events at major Marine exercises, to include Weapons and Tactics Instructor Course (WTI), Marine Corps Tactics and Operations Group (MCTOG), Integrated Training Exercises (ITX), and MEU level or larger combined arms exercises.

Materiel: Cyber operations include several materiel solutions, such as:

- Acquisition of a service-retained, realistic Cyberspace environment simulation system(s) to support Cyberspace training, operational planning, and Research Development Test & Evaluation (RDT&E) of OCO tools which address a broad range of identified and potential target Cyberspace systems.
- Creation of the Marine Corps segment (Tier 2, Tier 3) of the DoD Information Assurance Range to enable development and testing of information systems in a secure environment.
- Procurement / employment of an enterprise (to include both supporting establishment and MAGTF) Configuration Management (CM) system (as a component of the Marine Corps Enterprise IT Service Management effort) to enable configurable items to be tracked, reviewed, and maintained at the appropriate CM standard.
- Procurement / employment of an enterprise (to include both supporting establishment and MAGTF) IT Asset Management (ITAM) system (as a component of the Marine Corps Enterprise IT Service Management effort) to track lifecycle requirements of infrastructure, hardware, and software, and feed the configuration management system.
- Continuing to refine Host Based Security System (HBSS) to provide network managers with current configuration settings, notification of automated changes in network configurations, and electronically map information flow within Marine Corps networks.
- Developing an improved model and acquiring tools for logging network traffic to facilitate more-in-depth network analysis for enterprise logging and packet capture.
- Acquisition of advanced analysis capabilities to collect, store, and correlate inputs from multiple-point products, and present information to intelligence analysts.
- Developing a Cyberspace operations SA / COP tool, which provides timely, relevant, responsive, and accurate information by merging data from several sources to include existing network management software / appliances, Integrated Network Management Software (INMS), Host Based Security System (HBSS), and the Command Communications Service Designator (CCSD) database.
- Supporting DoD and USCYBERCOM development of the Insider Threat Detection Tool (INTDet) and the Insider Threat Focused Observation Tool (INTFot), as well as INTDet replacement through a Host Based Security System (HBSS) module.
- Leveraging and / or acquiring tools, systems and networks to support the conduct of OCO.

As is the case with Cyber, EW analysis yielded tangible materiel solutions, including:

- Continued evolution of government led capability development efforts to release formal Modular Open Systems Approach (MOSA) and EW Services Architectures standards to industry and academia with the goal of creating an information sharing environment that will expand the MAGTF EW Enterprise and increase the opportunity for Joint capabilities development.
- The CREW systems integration with the Electronic Warfare Services Architecture (EWSA) to conduct counter-communications EA and ES will strengthen the MAGTF.
- Enhancement of the MAGTF System of Systems (SoS) will occur through integration of the USMC Next Generation Ground EW Systems into the EWSA to conduct JEMSO.
- Leveraging the large number of CREW and USMC Next Generation EW systems deployed across the MAGTF maneuver space by using these capabilities in a "Sensors Forward" and Non-Traditional Electronic Warfare Support (NTES) capability.
- Developing MAGTF EW operational user interfaces within the EWSA that simplify the complex tasks associated with synchronizing the employment of JEMSO capabilities. Operational units employing EW techniques must have sufficient training to understand the SoS applications and proper employment of JEMSO capabilities.
- Using commercial technology and programmable / re-programmable EW payloads with increasing capabilities against a wider range of target sets on a manner of host platforms in sufficient numbers will provide a robust tactical capability to the MAGTF Commander.
- Transitioning current EA-6B Airborne Electronic Warfare capability into the EWSA and a combination of manned and unmanned EW subsystems.
- Conducting integration of MAGTF EW systems with all manner of JEMSO functionalities including, but not limited to, Cyber, IO, SIGINT, C2 and C4 to create a robust, responsive and effective EWBM capability.
- Establishing an agile software development model for the EWSA and Cyber

/ EW Coordination Cell software elements based upon the IT Box process, as described in the JCIDS manual, 19 January 2012. Deliverable EWSA software capabilities will be structured using the Requirements Definition Package (RDP) concept with the individual improvement increments delivered as the Capability Drop (CD).

Leadership: Cyber Professional Military Education (PME) requirements must be established to better prepare decision-makers in non-technical billets and develop standing Cyber awareness with tailored education down to the end-user level. An improvement in education on the use of EW to support the scheme of maneuver should be implemented. The MAGTF Commander will employ non-lethal effects as a means of fire the same way he would employ lethal MAGTF Fires.

Personnel: The Marine Corps must develop a formal system to track commercial, national, and service-sponsored Cyber training, certification and education to support the effective assignment of personnel to Cyber billets. The MAGTF must have the personnel with expertise to operate and coordinate organic and non-organic EMS assets.

Facilities: A facility and support structure must be created to allow for the development, testing, use, and employment of OCO tools. Improving future joint EW training facilities will also help to mitigate existing capability shortfalls. This capability must be coordinated with other controlling authorities to ensure the ability to fully utilize the capability and accurately simulate the proper Electromagnetic Operational Environment (EMOE).

4.6 MAGTF FIRES

The C2 MAGTF Fires Team is responsible for the integration and development of C2 systems that plan, coordinate, and execute MAGTF Fires in support of the warfighter. It is chartered as a forum for vetting issues related to MAGTF Fires, establishing priorities and contributing to a coordinated improvement of MAGTF Fires operations via direct interaction between the operating force, the CE Advocate, HQMC, the supporting establishment and other working level representatives concerned with issues involving MAGTF Fires.

Doctrine: The MAGTF Fires OAG provides a forum for reviewing MAGTF Fires doctrine, current status of publications and provides inputs for changes to MAGTF Fires related doctrine. The last MAGTF Fires OAG in Dec 12, 2012 presented the following doctrinal issues: Recommend to Infantry OAG to include digital fire support Training & Readiness (T&R) events with DC, PP&O concurrence; Recommend to link Digital MAGTF Fires operations E Coded events to Infantry and Artillery T&R with DC, PP&O concurrence; Recommend revision of MET 3.1 Employ Firepower to include digital operations; and targeting-identifying outputs from the planning process that feed into a targeting board, preparing and conducting a targeting board, and its inputs / outputs at the MAGTF level (to include inputs from / outputs to a component or joint commander).

Training: Fully integrated combined arms digital MAGTF Fires have not been achieved during Enhanced Mojave Viper (EMV). Digital MAGTF Fires execution tends towards sensor to shooter, bypassing the approval process within the FSCC. The digital bypass forces the MAGTF Fires clearance process to manual methods (maps, pins, and string), thereby reducing gains from any sensor to shooter digital connectivity. MCRP 3-16E will be trained to and implemented at all Fire Support agencies. The MAGTF Fires OAG recommends that DC, CD&I direct further analysis of an actual MAGTF CE / Regimental FSCC in an Integrated Training Exercise (ITX) scenario. The MAGTF Fires OAG also recommends a POI from MAGTF Integrated Systems Training Center (MISTC) to integrate systems with focus on Battalion FSCC seamless digital MAGTF Fires chain (sense, approve, execute) be developed. Conduct DOTMLPF coordination activities to implement increased Simulator / Stimulator (SISTIM) digital scenario training for Advanced Field Artillery Tactical Data System / Target Location, Designation and Hand-off System (AFATDS / TLDHS) from available AFATDS FSR. The MAGTF Fires OAG recommends that DC, CD&I direct further analysis of an actual MAGTF CE / Regimental FSCC in Integrated Training Exercise (ITX) scenario.

There currently is no standardized required training for personnel assigned to the MAGTF FFCC and similar activities such as Targeting, identifying outputs from the planning process that feed into a targeting board, preparing and conducting a targeting board, and its inputs / outputs at the MAGTF level. Recent exercises in which MSTP has participated offer key examples of service level challenges in this area, in terms of doctrine, education, and training. AARs from recent MSTP observed exercises serve as evidence of concern on the level of training in this area. The OAG examines solutions that address all three areas (doctrine, education, and training).

Materiel: The MAGTF Fires OAG seeks to validate AFATDS / TLDHS version updates that enable seamless digital MAGTF Fires chain while integrating Mortars into the Digital MAGTF Fires chain.

4.7 INFORMATION MANAGEMENT (IM)

MAGTF Information Management (IM), to include Support Equipment (SE) IM, is the ability to manage an organization's information resources for the handling of data and information acquired by one or many different systems, individuals, and organizations in a way that optimizes access by all who have a share in that data or a right to that information.

Doctrine: MCWP 3-40.2, Information Management, is undergoing final review

in the Doctrine Control Branch with DC, CD&I signature estimated for February 2014.

Organization: In 2010-2011 the IM Advocate conducted a Front End Assessment (FEA) on the 55 IM tasks previously identified by the IM OAG; highlighting specific gaps in organization and personnel. These include a lack of manpower to support IM, specifically the lack of an IM Chief and IM staff to conduct operations. Because IM is so closely tied to effective C2, all Gaps identified from the IM FEA were turned over to the Command and Control Integration Division (C2ID) of CDD for action as necessary. One recommended action (also embraced by the GCE Advocate) is to pursue a C2 MOS to build Marines to meet the requirements of the IM FEA and other C2 FEAs.

Training: The IM MOS is 8055, a "Free MOS". Currently, an IMO becomes an IMO by attending Electronic Warfare School and then having six months of On-The-Job-Training. Moving forward, an IM course must be developed for training Marines in a way that meets the requirements of the Tasks contained in the IM FEA. The Command and Control Training and Education Center of Excellence (C2 TECOE) held sessions in 2012-2013 to develop the IM POI, which after further collaboration, will be sent to the IM OAG and eventually the CEAB for approval, resourcing, and development into a training course.

Personnel: Currently, organizational deficiencies in MAGTF IM staffs are filled with contract personnel. This solution proves difficult in the operating forces due to the long timelines associated with the contracting process. The IM Advocate recommends providing a consolidated contract vehicle managed possibly out of Marine Corps Tactical Systems Support Activity's (MCTSSA's) Operating Forces Support Division (OFSD) that allows MEFs to write task orders with funding provided from the MEF needing the support. This consolidated administration would vastly reduce the burden of contracting and allow for delivery of personnel with common skillsets.

4.8 INFORMATION OPERATIONS (IO)

Information Operations is the integration, coordination, and synchronization of all actions taken in the information environment to affect a target audience's behavior in order to create an operational advantage for the commander. Although Information Operations has been moved to PP&O, it is discussed in this document for the sake of transition.

Doctrine: The IO community must review and refine doctrine to describe an informed, structured approach for shaping and developing the information environment based on IO objectives to support the MAGTF commander's intent. The community must also develop and enhance access to afloat capabilities aboard amphibious platforms to support digital imagery and data transmission, information dissemination, and decision support during distributed operations.

Organization: Occupational Field Managers (for Additionally Awarded Military Occupational Specialty (AMOS) 8834, 0510, 0520, 0521, 0550, 0551, 8016, and 8834) must conduct (T/O) review of organizations with existing structure for IO billets and establish appropriate billet requirements. The IO community must maintain service retained IO organizations and existing IO structure to provide MAGTF Command Elements and other organizations with organic cross-functional IO expertise in support of operational planning, targeting, and assessment requirements.

Training: The IO community must develop institutionally funded formal training curriculum for AMOS 0510, 0550 and 0551 requirements to create a sustainable Service capability for current and future IO and information related capability (IRC) subject matter expert (SME) personnel requirements. Formal training should produce cross-functional IO planners. IO will create more realistic exercise scenarios challenging commanders at all levels to incorporate information operations (both conventional and technical) into their MAGTF Fires planning and execution.

Materiel: The IO community must develop and enhance access to afloat capabilities aboard amphibious platforms to support digital imagery and data transmission during distributed operations ashore to support CEs C2, targeting, and Information Operations, as well as Afloat C41 capabilities to support the MAGTF Commander's ability to act as JTF command element.

Leadership: PME curricula modules must be updated to educate commanders, planners, and Marines on the significance of MAGTF IRC actions within the Information Environment to support the MAGTF commander's objectives, and how IO synchronizes, integrates and coordinates.

Personnel: We must establish an automated process and procedure to capture formal training completion in Marine Corps Training Information Management System (MCTIMS) and 3270 for courses required for AMOS 0510, 0550, and 0551 per MOS Manual.

MOS 0510, 0520, and 0521 must be assigned accordingly for those Marines who meet requirements specified in MCO 1200.17D.

We must also develop processes and procedures to ensure non-MOS holders assigned to IO or IRC billet receive required formal training prior to deploying within the billet. Marines who have unique skills required to assess the Information Environment, conduct IO, and interact with Joint, Interagency, Intergovernmental, and Multinational / Other Government Agencies (JIIM / OGAs) in support of shaping operations to facilitate management, retention, and assignment of Marines to billets requiring these skills must be identified and tracked.

Facilities: Refer to Classified IO CBA DEC 2012.

4.8.1 COMBAT CAMERA (COMCAM)

Small Wars Center / Irregular Warfare Integration Division (SWC / IWID) identifies, coordinates, and integrates CA / IW, Combat Camera (COMCAM), as well as IO, and PA capability development initiatives across DOTMLPF within the Marine Corps in order to enhance Service capabilities and capacities to conduct operations against irregular, hybrid, or conventional adversaries.

COMCAM provides an extensive range of Visual Information (VI) products to support the execution of missions across the ROMO and during training evolutions. COMCAM provides Marine Corps, Joint, and Coalition decision-makers with timely and accurate battlefield information for operational use. During operations and contingencies, especially HA/DR and TSC, key functional areas of Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), IO, PA, and Civil Military Operations (CMO), there exists a high-demand for COMCAM imagery and product development assets.

Figure 4.5: Combat Camera Marine

COMCAM is uniquely positioned to support all elements of the MAGTF to include the Supporting Establishment (SE) in order to capture the widest operational perspective for air, land and sea missions. Unlike in the other Services, Marine Corps COMCAM personnel are organically assigned to operational units. They are task organized and equipped to train and fight with the very units that they operate with and perform in the most extreme conditions across the ROMO. This task organization ensures comprehensive integration into the planning process and synchronized support of missions supported.

The task organization of COMCAM expedites the acquisition and internal distribution of imagery as the operational situation develops and changes. This method streamlines and simplifies the internal dissemination and management of imagery and products.

While other organizations have similar imagery acquisition capabilities, COMCAM leverages a mass reproduction capability in both deployed and garrison environments.

Doctrine: Marine Corps Warfighting Publications (MCWP) 3-33.7 MAGTF COMCAM is current with a review scheduled for October 2014. Marine Corps Reference Publication (MCRP) 3-33.7A, Multi-Service TTPs for Combat Camera Operations was signed in April 2013.

Organization: The COMCAM of the future will be organized and equipped to support MAGTF operations and the SE in a continuously changing information environment. COMCAM Marines will be task organized and equipped to quickly adapt and exploit the information domain in which they are operating. Organizational changes will not take place until a full analysis is completed by the Operating Forces (OPFOR) and SE on the performance of COMCAM.

COMCAM provides a non-lethal capability at all levels of the MAGTF and associated elements (ACE, GCE, LCE and CE). According to MCWP 3-33.7, COMCAM Marines are assigned and under the operational control of the HQ Element, Operations (G3/S3) section usually within the IO cell. COMCAM supports IO objectives to higher and adjacent commands integrated planning and processes. As part of the IO planning process, COMCAM is coordinated and synchronized through the IO cell and integrated with other MAGTF information capabilities and appropriate joint, interagency and multinational organizations in order to achieve defined objectives. Additionally, COMCAM uses its functions to provide direct support to sensitive operational activities.

COMCAM provides the SE with directed "on hand" imagery acquisition, product development and mass reproduction capabilities. These assets ensure that SE functions and missions are enhanced through visual information. When needed, SE will provide personnel through augmentation to the OPFOR.

Training: The COMCAM training concept for 2012 to 2025 is to provide a realistic training and education system that will prepare Marines for complex conditions and the hybrid threat anticipated in the future. Entry level COMCAM training will continue to be provided but will rely on more specialized training provided through advanced curricula based on experience and lessons learned.

COMCAM training will be designed to prepare Marines to function effectively in an expeditionary and austere environment amid uncertainty and disorder and within critical time constraints. Exercise scenarios should properly incorporate elements of chaos and confusion. Planning exercises should incorporate severe time limits to simulate stress and tempo. Education and training should teach the appropriate use of Tactics, Techniques and Procedures (TTPs) which emphasize flexibility, speed and adaptability.

COMCAM provides uniquely specialized VI support and products to Marine Corps training and education efforts. Marine Corps Training Commands have invested in utilizing organic COMCAM units to acquire and design media that directly support formal schools classroom training learning objectives. In order to create current and relevant media designed to increase initial comprehension and long term retention of information, Training Command uses imagery acquired locally and by forward deployed Combat Camera conducting combat operations. Imagery is gathered from the battlefield / operations and moved to classrooms allowing formal school instructors and administrators to effectively teach entry and career level students using current and relevant imagery. Utilizing the latest digital still and video imagery to illustrate real world applications of terminal and enabling learning objectives increases the effectiveness of formal school graduates and their ability to positively impact the war fighting capabilities and mission readiness of the units to which they are assigned. COMCAM contributes directly to the Systems Approach to training by bringing the fleet to the classroom to support training initiatives, learning objectives through the acquisition of imagery and multi-media productions. The development of multi-media training products provides a training aspect that enable Marines to learn and improve their skills via digital and computer assets when physical "hands on" training is not a possibility.

Materiel: The Deputy Commandant for Combat Development and Integration is pursuing a twofold strategy in defining future capability requirements for Combat Camera Systems (CCS). The first strategy is the transition of requirements from urgent operational requirements for deliberate requirements via the Joint Capabilities Integration and Development System (JCIDS). This strategy has resulted in the formulation of the Increment 1 CCS Family of System Capability Production Document (CPD).

Future capability requirement increments will be defined in the near future as technology matures making the system lighter and more capable. This incremental approach will allow CCS to evolve into an even more capable system.

Combat Camera Systems (CCS) Family of Systems (FoS) provides the OPFOR with the ability to acquire, manage and internally disseminate Visual Information products. CCS supports all elements of the MAGTF by providing a full range of professional imagery collection, print and reproduction capabilities. The following equipment is included in the CCS FoS:

- Combat Imagery Scalable Archive Database (CISAD)
- Combat Still Imagery System (CSIS)
- Combat Video Acquisition System (CVAS)
- Night Vision System, Camera (NVSC)
- Visual Information Imagery Editing System (VIIES)
- Tactical Imagery Production System (TIPS)

Leadership: COMCAM Officer and Senior Staff Non-Commissioned Officer leadership will be trained in the management of the COMCAM Occupational Field. Education will include manning and structure processes, career progression and development of COMCAM Marines to include B billets, Training Task Selection Boards and the MCTL. Training in the management and funding of current and developmental COMCAM program, systems, and personnel is necessary to ensure continued COMCAM support for the MAGTF's operational objectives Study areas include POM, the PPBE process to fund COMCAM programs, activities, equipment, travel, and contract support, the EFDS, MCFDS, and the JCIDS for the development of COMCAM DOTMLPF requirements. This training will be provided via online distance education, SME seminars, and mobile training teams.

Personnel: As the drawdown continues, COMCAM's focus remains on supporting the MAGTF with 54% of its Marines assigned to the OPFOR. Additionally, COMCAM is in the early stages of reorganization to support the Marine Expeditionary Brigades with an organic operational capability to acquire and manage imagery, and develop and internally disseminate VI products which support all phases of operations.

Figure 4.6: Law Enforcement Marines

4.9 LAW ENFORCEMENT (LE)

HQMC Security Division (PS) Law Enforcement and Corrections Branch (PSL) develops, coordinates, integrates and oversees force protection policies and sponsors selected critical programs to provide secure environments enabling the operating forces and supporting establishment to successfully execute Marine Corps global missions. The vision of the group is to become a more efficient, innovative and capable organization that develops superior force protection policies and provides excellent program management and oversight for our Marines, civilians and families.

Doctrine: The 2010 FSRG decision to develop a Law Enforcement Battalion (LE Bn) required a reorganization of the Military Police (MP) community. The MP companies that were assigned subordinate to each Major Subordinate Command (MSC), such as MEF Headquarters Group (MHG), Marine Aircraft Wing (MAW), DIV, and Marine Logistics Group (MLG), were reorganized under the MHG into a LE Bn. This also required a revision of the Marine Corps Tasks (MCT), Doctrine, and the Law Enforcement Manual (LEM) and organizational structure of MP community.

Other doctrinal artifacts related to LE and their respective status:

- MCWP 3-34.1 Law Enforcement Operations: The MCWP is currently in review in order to accurately reflect current Military Police and LE Bn Capabilities. This MCWP will address the organization of the LE Bn within the MHG and the employment of MP capabilities within the MAGTF. MP MCT has been revised from the legacy employment MCT 6.1 [Area Guard / Security, Convoy Security, Anti-Terrorism / Force Protection (AT/FP), focus] to MCT 6.6 Conduct Law and Order Operations (Law Enforcement Operations, Policing Operations, Police Advising / Training, Limited Detainee / Corrections Operations).
- Naval Marine Corps (NAVMC) 3500.10 (Military Police and Corrections Training and Readiness Manual): This NAVMC has been revised and signed to reflect current Military Police and LE Bn Capabilities. A Course Content Review Board (CCRB) has been conducted to incorporate these changes within the Military Police Basic Course and Military Police Officer Course Period of Instruction (POI).
- MCO 5580.2B Law Enforcement Manual (LEM): Change 2 of the LEM is being staffed to reflect current Military Police and LE Bn Capabilities. Expected publication of the Change 2 to the LEM will occur during FY13.
- Development of Military Police Strategic Communications Plan: The Strategic Plan is in draft with an expected publication date during FY13. This Strategic Plan will effectively communicate to the OPFOR and Supporting Establishment (SE) the Military Police Community vision of their concept of employment and initiatives within the OPFOR and SE for next 5-10 years.

The effective communication of the revised MP MCTs is pertinent to ensure the proper employment of MP capabilities within the MAGTF. Re-education within the Military Police Community (LE Bn, PMO) as well as USMC Leadership of the paradigm shift in MCTs and employment of MP capabilities. Revision of publication of doctrine will ensure MP capabilities are effectively communicate to OPFOR commanders and planners.

Integration of Law Enforcement Professional (LEP) capability within the LE Bns. In meeting the MROC Decision 17-2010 to develop an enduring integrated LE / Counter Insurgency (COIN) capability to transition from a contracted Law Enforcement Professional to government solution, including MP organic assets, the revision MCIP 3-33.01, LEP, to reflect the USMC MP MCTs in providing this capability to OPFOR commanders is a priority.

Organization: "Right-sizing" the structure of the MP community to meet both OPFOR and SE requirements is a major organizational priority for the Marine Corps. USMC MP support both OPFOR (LE Bns) and Marine Corps Installation (Provost Marshal's Office). Ensuring the organization of both OPFOR and SE is capable of supporting these requirements is a continuing effort. HQMC will continue validating LE Bn OPFOR capabilities ISO MAGTF operations while balancing SE MP requirements against OPFOR requirements.

The organization of LE Bn T/O structure ensures staff functions (S-1, S-2, S-3, S-4, and S-6) are properly staffed with relevant MOS functions to support Bn operations. There is an initiative to integrate LEP capability (MCIP 3-33.01) within the LE Bns to meet OPFOR demand. With the lessons learned from the 2d MP Bn Proof of Concept, ensuring organic staff functions are fulfilled by proper MOS identifiers is integral in conducting Bn Operations (i.e. IPB, Employment of Communication Assets). Currently LE Bn is deficient in certain staff functions (e.g., S-2 Officer), which is filled by 5803 personnel. We will continue to identify and resolve these identified gaps to ensure staff functions within the LE Bn are properly utilized and executed.

Training: The Military Police community must develop institutionally funded formal training curriculum for PMOS 5803, 5804, 5811, 5821, and 5831 requirements to create a sustainable service capability for current and future operations. Additionally, leadership development identifies existing DoD professional development training venues and develop a Junior-, Mid-, and Senior-Level Enlisted and Officer MP Professional Development Courses.

The MARFORRES MP MOS development is a revision of the MOS manual for 2014 publication to allow for MARFORRES Marines with civilian LE experience to conduct a lateral move to the 58XX MOS allowing the OPFOR community to effectively utilize reserve Marines with civilian LE skill sets (i.e. Law

Enforcement Professional).

The Professionalization of MP Community serves as:

1. Development of MP Professional Enhancement Programs to promote MOS development In Reference To US Government / State interagency relationships to support DoD operations; and
2. Development of HQMC Memorandum of Understanding (MOU) to be utilized at Marine Corps Installation PMOs to conduct non-operational training and development opportunities within state / local LE departments to enhance MP/LE skills.

Lastly, an initiative within the LE OAG expands Civilian Marine Corps Police Academies (Camp Johnson, MCAS Miramar) to support Active Duty MP as well as Civilian Marine Corps Law Enforcing Professionals MP/LE Training and Professional Development Courses.

Materiel: Ensuring Military Police are equipped with the proper materiel capabilities is integral in the conduct of Military Police Operations. Within the LE Bn, the Table of Equipment includes all organic weapons ranging from the M-9 to the MK-19, High-Mobility Multipurpose Wheeled Vehicle (HMMWV), and Medium Tactical Vehicle Replacement (MTVR)s to support MAGTF operations. The MP community's ability to synchronize Bn T/O and T/E capabilities to meet current and future operational requirements is crucial in order to effectively employ military police capabilities across the Range of Military Operations.

The LE OAG has an initiative to identify current and future T/E gaps and incorporate them within the annual USMC Combat Development and Integration Command Program Objective Memorandum (POM) cycle. Materiel solutions for forensics capacities are being developed as a POR for the Expeditionary Analysis Cell-Lite Kit (EAC-Lite) to provide MAGTF commanders with Level-II forensics capabilities. Identified gaps in the C2 architecture within the LE Bn continue to be analyzed to properly communicate and disseminate information to the MAGTF.

The main issue facing LE as it pertains to Materiel includes establishing a materiel solution and Program of Record for the EAC-Lite to ensure this is an enduring capability provided to the MAGTF post-OEF. An Urgent Universal Needs Statement has been submitted to establish the requirement for expeditionary forensics capabilities that will be incorporated within future POM cycles for procurement, training, and sustainment.

Leadership: A Military Police Strategic Communications Plan will be developed to effectively communicate to the OPFORs and Supporting Establishment (SE) the Military Police Community vision of their concept of employment and initiatives within the OPFOR and SE for next 5-10 years.

Additionally, development of the MP PME Leadership Courses (Non-Commisioned Officer (NCO), Staff Non-Commissione Officer (SNCO), and Officer) will identify current DoD funded professional development courses to enhance MP current capabilities and professionalization of enlisted Marines and officers. TECOM accredited leadership development courses must be developed to ensure career progression of MP enlisted Marines and officers.

The Command Selection Board for LE Bn Commanders must be redistributed so that I, II, and III MEF LE Bn Commanders are no longer slated during the same FY. By slating I MEF and 4th LE Bn within the Force Headquarters Group (MFG) of Marine Corps Forces Reserve on even years, and II and III MEF LE Bn on odd years there will be improved leadership continuity within the LE OPFOR community.

Personnel: An initiative is underway to realign Major Subordinate Command (MSC) MP AT/FP Officers and SNCOs to redistribute their billets to the LE Bns and reassigning them as designated MEF/MSC Liaison Officers who will directly support MEF/MSC operational planning IRT MP Capabilities. These AT/FP officers fulfill an 8006 billet that does not allow them to effectively utilize and advocate MP capabilities IRT the revised MCTs.

The LE OAG will identify non-58XX T/O Gaps: Current gaps identified within the LE Bns are; Supply Officer, Vehicle Mechanics, Communication (S-6) Officer, Chaplain, Medical Officer, and Radio Operators. HQMC PSL will continue to work with the stakeholders and M&RA to ensure these billets incorporated within the LE Bn T/O.

Facilities: The LE OAG will identify gaps in facilities to meet current / future operational requirements. As current facility infrastructure of LE Bns is utilized with existing infrastructure, identified gaps are Headquarters and Staff Bn Facilities: These functions are conducted with distributed operations and facilities infrastructure is insufficient to support a consolidated facility or facilities within proximity of Bn and Company operations. Identifying deficiencies in OPFOR Military Working Dog (MWD) facilities will provide adequate space for kennel facilities and MWD training requirements.

4.10 MARINE CORPS INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE ENTERPRISE (MCISRE)

The Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) develops, delivers, operates and sustains fully integrated Intelligence, Surveillance, and Reconnaissance (ISR) capabilities that provide information at the point of execution. Operating across all warfighting functions, the MCISRE provides Commanders and decisions-makers the intelligence information required to successfully plan and execute MAGTF missions spanning the ROMO. MCISRE's effectiveness is enabled through its Service Title 10

responsibilities, working in conjunction with interagency, joint, allied and coalition partners.

Doctrine: The 2014-2019 Marine Corps ISR Enterprise Plan enables ISR elements across the Marine Corps to operate with a shared vision, methods, and standards to support operations. The Intelligence Integration Division, Capabilities Development Directorate (CDD), is the functional manager of intelligence doctrine and coordinates with respective proponents for the review and updating of doctrinal publications. A major focus in the publication development effort will be to update MCWP 2-2, MAGTF Intelligence Collection, MCWP 2-3, MAGTF Intelligence Production and Analysis, and MCWP 2-4, MAGTF Intelligence Dissemination. These publications will be updated in sequential order with the initial focus of effort being MCWP 2-2. Upon delivery of the Author's Draft of MCWP 2-2, developmental focus will shift to MCWP 2-3, and then to MCWP 2-4. Review of the author's draft for MCWP 2-2 will include considerations relevant to Cyberspace operations and Airborne ISR issues (specifically SIGINT payloads for UAS).

Organization: The MCISRE is grounded on three distinct nodes: Marine Corps Intelligence Activity (MCIA) as the Fixed Site, the MEF Intelligence Centers (MIC) as the Garrison nodes, and deployed Expeditionary nodes. The regionally aligned MICs enable timely reach-back Exploitation, Analysis, Production, and Dissemination support to deployed MEF components and appropriate CoalitioN / Joint requirements and facilitate shared situational awareness across MCISRE. HQMC-I provides funding for the MICs to ensure reliable ISR reach-back that supports the MAGTF and appropriate Coalition / Joint requirements, all of which require increased bandwidth, connectivity, data storage and sustained force structure.

Training: The MCISRE seeks to achieve the goals and objectives outlined in a holistic intelligence training and education strategy co-signed by the Commanding General, TECOM and the Director of Intelligence to address the training, education, and certification needs for the intelligence workforce from accession, to assignment, to deployment, and onward to re-deployment as a Marine or Civilian Marine. The plan addresses the specific training and education requirements of the formal schools to provide initial MOS training; requires intelligence Marines and civilians be certified for specific billets; and that Tradecraft Groups and Regional Intelligence Training Centers (RITCs) provide the enhanced operational skills required by all intelligence Marines. The result is an end-to-end training continuum that addresses the needs of intelligence Marines throughout their careers, ensuring that the intelligence career learning continuum and intelligence organizations are seamlessly linked in a shared and experiential learning environment across the Enterprise.

In addition to entry level and career progression courses conducted at "brick and mortar" schools, the MCISRE addresses the manpower and funding required to provide career progression and "just in time" training at the local level that is necessary to the career progression of our intelligence Marines and the readiness of our intelligence units and sections. While the formal schoolhouse courses provide a solid foundation for training, the majority of training and practical learning over a Marine's career occurs at the local level. Additionally, as professional development and certification efforts dictated by the Under Secretary of Defense (Intelligence) continue to mature, the Marine Corps will need to develop the infrastructure (manpower, space, systems) to support this larger DoD effort. A successful model for the solution to this requirement is the current Intelligence Training Enhancement Program and the Regional Intelligence Training Centers (ITEP / RITC). Both of these efforts are under pressure with significant amounts of funding having been eliminated with the loss of Overseas Contingency Operations (OCO) funds and will require continued support and a transition to base line funding.

Many challenges await the IC and the Marine Corps in the face of ongoing and increasing fiscal austerity. Decreased training budgets and manpower are a reality, despite increases in training requirements associated with Cyber and career progression goals in other intelligence functions (e.g., foreign language and collection management). As this occurs, the Marine Corps and USMC partners within the DoD must evaluate requirements, reset priorities, and set realistic and achievable training and education objectives. It is critical to cooperate to find affordable, accessible solutions while maintaining the high quality, mission critical training provided to our intelligence professionals, at the best value.

Materiel: The Intelligence portfolio consists of 16 Programs of Record, but that number will be reduced as technological advancements are leveraged to achieve greater efficiencies. Examples include the functionality of the Tactical Exploitation Group (TEG), Topographic Production Capability (TPC), Joint Surveillance and Target Attack Radar System (JSTARS), and Wide Field of View Persistent Surveillance (WFVPS) being incorporated into Distributed Common Ground / Surface System Marine Corps Geospatial Intelligence (DCGS-MC GEOINT), Intelligence Analysis System (IAS) functionality incorporated into DCGS-MC All Source, and the functionality of the Technical Control and Analysis Center (TCAC) being incorporated into DCGS-MC Signals Intelligence (SIGINT). These are spiral acquisition actions, with DCGS-MC GEOINT being fielded in late 2014 / early 2015.

Leadership: The Director of Intelligence (DIRINT) is committed to an effective mentoring program that is complementary to the CMC's broader program. The Marine Corps Intelligence Activity (MCIA) has established the MCISRE Mentoring Program Website that provides program information, timelines, frequently asked questions, and a brief application survey designed to better match mentors and protégés based on individual needs. The website provides

leaders, mentors, and protégés with additional tools to enable more effective mentoring, along with a mechanism by which protégés can seek counsel on topics that may be outside the expertise of mentors at the local level. The MCISRE Mentoring Program will enhance, not replace, ongoing mentoring efforts.

Personnel: While the construct of the intelligence Military Occupational Specialties (MOS) has remained relatively constant over the last decade, the MCISRE must continually examine the MOS structure associated with the officers and enlisted Marines who comprise the intelligence workforce. Marine Corps Intelligence Schools, in conjunction with the DC, CD&I, the Operating Forces, TECOM, Intelligence Department and other stakeholders, has embarked on an evaluation of the MOS construct of unrestricted intelligence officers. This will mark the first comprehensive analysis of the Marine Corps' ability to access, train and manage the unrestricted intelligence officer MOSs since the mid-1990s. The intent is to inform any changes which may be required within these MOS's to better enable career progression and manpower / personnel management.

Additionally, Intelligence Department, on behalf of the larger USMC Cyber operations enterprise, will develop courses of action (COAs) to address the accession, retention and promotion of Marines who possess some of the most marketable and critical skills within our intelligence workforce. These COAs range from the use of skill designator MOSs to the use of primary MOSs to capture the training and manpower requirements associated with Cyber operations from the national to tactical levels as well as the personnel management aspects of these highly skilled Marines.

Facilities: MCISRE is committed to development and establishment of the Marine Corps Intelligence Campus aboard Marine Corps base, Quantico, as well as establishment of the Virtual SIGINT Operations Center (VSOC). This SIGINT processing, exploitation, and dissemination cell resides at each Radio Battalion (RadBn) and serves as the reach-back support for both deployed RadBn elements and MIC garrison requirements. Specifically, the MCISRE seeks to leverage upgraded communication infrastructure (NSA Net) to increase bandwidth and throughput. The VSOC is potentially capable of conducting linguistic and analytic support to add capacity to forward deployed elements in OEF-A, OEF-P, and the MEUs, as well as address SIGINT production requirements to support their respective MICs.

4.11 MARINE EXPEDITIONARY BRIGADE (MEB)

A national strategic shift toward the Asia-Pacific region (where the Marine Corps has its deepest roots in amphibious operations) coupled with a commitment to providing the nation's "middle-weight force" means that focus on expeditionary operations at the Brigade level will take center stage.

The 2012-2013 FORG examined the concept of embedded vs. standing MEB CEs to determine the cost-benefit value of maintaining the standing MEB Command Elements. An Operational Planning Team (OPT) was formed in January 2013 to evaluate that question from the MEB perspective and affirmed the value of maintaining standing MEB CEs, particularly considering the Marine Corps commitment to aligning MEB CEs to Crisis Response and Contingency Response missions (and forces) and ensuring the MEBs are provided the appropriate training / resources required to make them relevant and capable to the GCC they support. As the Marine Corps force structure is reduced from 182.1K to 175K Marines the emphasis on the standing MEB CEs has intensified, and the structure of the two standing MEB CEs (2d and 3d) has been increased substantially to 200+ with some variation in the respective T/Os to reflect the unique roles and responsibilities of each MEB Commander (e.g. assumption of some Title 10 responsibilities in 2d MEB). 1st MEB CE which remains embedded will "mirror" the 3d MEB CE T/O.

In March of 2012 the CEAB was briefed on the MEB Way-Ahead and endorsed the approach focusing on providing flexible, scalable, and relevant MEB forces capable of operations across the ROMO as the prudent course. The CEAB agrees that the MEB OAG will serve as the organizing and oversight mechanism to conduct a DOTMLPF approach to achieving the way ahead.

The MEB OAG is responsible for coordination of efforts and strengthening links between all representatives in order to increase MEB capabilities, employability and relevance to Geographic Combatant Commanders. The July 2013 MEB OAG emphasized three enduring working groups – CONOPS, Training Exercise and Employment Plan (TEEP) and MEB Baseline (with a sub-group for each MAGTF element).

Doctrine: CONOPS Development – The intent in building a CONOPs for the MEB is to:

- Assist in further defining and refining the MEB.
- Include a concept for forming and compositing the MEB from forward, Global Response Force (GRF), and rapidly deploying forces; include sea-based, land-based, or land / sea based combination.
- Establish the MEB as JTF capable and part of the GRF.
- Reduce / eliminate ad-hoc arrangements with CE and supporting units.
- The MEB is organized as a MAGTF that can be tailored to a specific mission, and fulfills GCC requirements from steady state up to OPLAN / CONPLAN level of operation with specific focus on crisis response.
- Underpin the development of a Required Operational Capability / Projected Operational Environment (ROC / POE) document for the MEBs (a critical

document in that a ROC / POE is required by the Navy when developing new requirements for ships, airplanes and units and this allows the Marine Corps to translate the requirement into a form consistent with Naval capability development).

- Inform investment strategies.
- Consolidate emerging concepts for a common understanding of MEB Operations.
- Serve as a framework for future DOTMLPF development.
- Serve as internal / external strategic communication vehicle for MEB Operations and capabilities.

The CONOPs will be published in early 2014 and will focus on how the MEB supports theater security cooperation to forcible entry as an integral part of the GCC's strategic reach and operational capability. The MEB CONOPS will describe scalable task organizations that form through compositing of forward deployed and CONUS forces. While the scale ranges from a Fly-in Command Element (FICE) up to a forcible entry MEB, there are three fundamental levels addressed by the CONOPS:

A MEB is:

- Commanded by a Major General or a Brigadier General.
- Initially sustainable for up to 30 days but could be sustained indefinitely in littoral operations through naval logistics integration.
- Constructed around a reinforced infantry regiment, a composite Marine aircraft group, and a combat logistics regiment.
- Expeditionary, includes amphibious, pre-positioned, and / or strategic lift.
- Able to employ the MEB CE to C2 forward-deployed, composited, or rapidly deployable Joint Interagency Intergovenmental Multinational commands.
- Aligned to a regional area and respective ESG through an established habitual relationship

The MEB CE is structured to form the nucleus of a JTF headquarters. It is organized to include a command section, core staff, and a Brigade Headquarters Group (BHG) detachment. The core staff is capable of performing warfighting and select special staff functions. The MEB CE exercises designated operational, tactical, and administrative control of all forces when attached or assigned. As required, the MEB staff may be further augmented with a HQ Company, Security elements and additional special staff to execute specified tasks, such as:

Figure 4.7: LHD

- Additional C2 and intelligence capabilities from service, national, and theater assets.
- Force reconnaissance assets.
- Signals intelligence capabilities.
- Force MAGTF Fires and effects coordination center personnel.

Preferred sourcing of subordinate units will be from the parent MEF. The BHG provides primary support services to the MEB CE; the Marine Logistics Group's general support Combat Logistic Battalion provides any support services that are beyond the BHG ability or level of support.

This CE structure may be integrated into a MEU or Special-Purpose MAGTF (SPMAGTF) staff for additional capability. Depending on the crisis, additional MEB CE staff and enablers can deploy to augment the FICE and build up to a CE capable of 24-hour/day command and control of compositing forces in theater. The "suitcase staff" is capable of deploying within 12 to 24 hours in order to:

- Provide General Officer level representation in close proximity to crisis or contingency area.
- Establish immediate command of forward-deployed and rapidly compositing forces.
- Develop an initial assessment of the situation.

- Coordinate with the GCC / MARFOR and the US Department of State as necessary.
- Provide the nucleus for a larger CE.
- Shape conditions for the deployment of follow-on MEB forces.

The MEB CE may command compositing forces as subordinate elements or may absorb the MEU CE or SPMAGTF CE into the MEB CE. When required, the full MEB CE and enablers can deploy to expand the command and control capability for 24-hour/day command and control of compositing forces in theater. The MEB CE will be resourced to establish liaison elements with appropriate external and international agencies as required.

Organization: MEB Mission Statement has been staffed at the AO and Colonel / GS-15 levels, and distinguishes the MEB CE from the MEB as a whole. This version will be staffed at the GO level during Q22014 and will include the following combined mission statement in an effort to eliminate the confusion associated with speaking of the CE and the MEB proper as separate entities.

"On order, MEB provides a rapidly-deployable and JTF-capable general officer-led command element with scalable, composited, and task-organized air-ground forces to fulfill GCC operational requirements that can range from theater security cooperation to forcible entry."

Training: MEB Training & Exercise Employment Plan – the goal of establishing a working group to synchronize MEB TEEP activity is to define MEB Training continuum(s) [including Joint Task Force Headquarters (JTF HQ) assessment opportunities] in order to provide commanders increased visibility, de-conflict resources, to facilitate sustainment, and to develop Naval aggregation capabilities for Crisis Response / Contingency Response.

The stated purpose of the Working Group is to synchronize resources necessary for training to support achieving METs while meeting Service and GCC objectives. The method is founded in synchronization and integration through:

- Formalizing Cross-MEB exchanges to enhance the proliferation of Lessons Learned and provide leveling across all the MEBs.
- Implementation of the MAGTF Training Program (MAGTF TP) that will synchronize and expand both unit and staff training for elements of the MAGTF, and will coordinate the efforts of Service training organizations and resources.
- Establish full partnerships with the Navy through the training process facilitating better planning and interaction among staffs as well as more visibility and flexibility in ship scheduling.
- Establish relationships with other services and entities that would support or be supported by MEB training.
- Engender interagency support of MEB training venues lending to real world execution.
- Determine funding required and timeline for resourcing associated with MEB training and prioritization.

The MEB TEEP WG approach to achieving synchronization of the MEB TEEPs is to review plans for 2015 through 2018 and overlay the critical events such as Bold Alligator, Song Yang, Dawn Blitz, Eager Lion and a Large Scale Exercise at 29 Palms to deconflict schedules and training assets, identify areas of common interest and synchronize resources, align scheduling with resourcing requirements and allocations, conduct formal coordination and engagement with the Navy, and identify venues suitable for JTF assessment.

Taking a broader view of training objectives, the TEEP WG will make suggestions in order to better support achieving Service and GCC objectives while incorporating the Lessons Learned process into the training continuum. Synchronization of the MEB TEEPs will facilitate pointed experimentation and investment to support MEB operations. Including this MEB TEEP review and synchronization process in the Force Synchronization Conference formalizes activities and ensures continuity.

Additional considerations for the TEEP WG include:

- Regionalization and the degree to which the Marine Corps wishes to formalize it – the desire for a Unified Campaign Plan-type visual or map with clearly defined boundaries was raised.
- JTF assessment which the WG felt would be best conducted internally with augmentation from the GCC.
- Utilizing the CONOPS in conjunction with training plan development, MEBs must understand the JTF assessment process.
- This requires MARFOR Commanders to seek "sponsorship" from their GCCs in order to be nominated as the exercise force for JCS exercises.
- The assessment should be tied to specific mission sets (e.g., MARCENT FWD is designated as HA/DR JTF core for CENTCOM) and to MET/JMETs which conform to a 2-year training cycle and 5-year planning cycle.
- Potential for incorporation of Type Commander's Amphibious Training (TCAT) into the MEB CE training continuum.
- Integration of Cyber Operations into major exercises to meet the intent of the Service Campaign Plan and achieve desired effects.

MEB Mission-Essential Task List (METL) Refinement is critical to assessing the

readiness of Marine units; MEBs are no exception. GO-level approved MEB Mission-Essential Tasks (MET(s)) are:

Forcible Entry and Expeditionary Operations:

- MCT 1.12.1 – Conduct Amphibious Ops
- MCT 1.12.3 – Conduct Prepositioning Ops

Contingency Response:

- MCT 1.3.1 – Conduct Maneuver
- MCT 3 – Employ Firepower

Respond Rapidly to Crisis:

- MCT 1.10 – Conduct Crisis Response
- MCT 1.13.2 – Conduct Noncombatant Evacuation Ops
- MCT 1.16 – Conduct Humanitarian Assistance
- MCT 6.1 – Provide Security

Facilitate follow-on Joint and Combined Forces: MCT 5.5 – Conduct Joint and Combined Ops

Conduct Steady State Stability Ops: MCT 1.14 – Conduct Stability Ops

Materiel: Now that the table of organization (T/O) for the MEB Baseline (see Personnel section) has been approved, a concerted effort has begun to determine the breakdown of the MEB by Assault Echelon (AE), Assault Follow-On Echelon (AFOE) and the Fly-In Echelon (FIE) and their respective equipment sets which will establish the table of equipment (T/E) for the MEB. Completion of this review is expected by Fall 2014.

Leadership & Education: As the Marine Corps defines its focus on the MEBs and the role of the MEB in meeting GCC requirements, it must also refine the command relationships of the MEBs (and MEB CEs) with the MEF, MEU and Special Purpose MAGTFs (SPMAGTF) as these relationships will have significant impacts on force aggregation and employment.

Personnel: The MEB Baseline has undergone a 10+ year evolution with marked increases in both manpower and equipment. Despite this growth amphibious lift assets remain constant. Growing MEB remain behind equipment (RBE) drives competition for other finite lift resources which is critical in that the Baseline MEB also feeds authorized acquisition objective (AAO) development and lift planning requirements to the Navy.

The updated 2017 baseline as established by the MAGTF Advocates was presented to DC, CD&I in May 2013, and it was requested to better "balance and proportionalize" the MEB. This review was conducted during the July MEB OAG and is an ongoing effort to distill the MEB for planning and establish a departure point for task organization of the MEB to conduct operations from TSC to joint forcible entry. The MEB OAG resulted in a revised baseline MEB Task Organization.

Utilizing both a 15-ship and 17-ship sizing construct for the Assault Echelon of the MEB and in an effort to establish a more balanced MAGTF, the MEB Baseline WG will continue to refine the product in an effort to better quantify the DC CD&I established baseline of a 15,292-Marine MEB to inform lift requirements and associated equipment sets.

Figure 4.8: CH-46

Facilities: The implications of MEB reorganization options on facilities disposition and infrastructure are currently undefined.

4.12 MARINE EXPEDITIONARY UNIT (MEU)

The MEU OAG is chartered as a forum for vetting MEU related issues and serves in an advisory capacity to the DC, PP&O and DC, CD&I. The OAG conference provides a venue for operational commanders and their staff to address operationally significant issues, to discuss and share lessons learned from past and current deployments, and provide senior Marine Corps leadership with assessment of current MEU related issues.

Doctrine: The MCO 3120.9C (Policy for MEU and MEU Special Operations Capable (SOC)) re-write will follow SOCOM-USMC Wargame OPTs in Fall 2013. A MEU METL review is tentatively scheduled for Nov 2013, which may influence the re-write of MCO 3120.9C Policy for MEU and MEU (SOC) and the MEU T&R Manual (Jan 2014).

Leadership: The semi-annual MEU OAG is chartered as a forum for vetting issues and will serve in an advisory capacity to DC, PP&O; DC, CD&I and the MEU advocates, to examine MEU related issues for review and consensus prior to submission to other forums such as the CEAB, Navy-Marine Corps Warfighter Talks (NMCWFTs), and other advocates and HQMC staff sections as required. The MEU OAG provide linkages among the operating forces, HQMC,

the supporting establishment and other working level representatives concerned with issues involving the MEU. The Expeditionary Policies Branch, PP&O is designated as the lead agent for the establishment and conduct of the MEU OAG.

Personnel: Special Operations Training Group (SOTG) T / O's are not aligned to the current SOTG mission statement and current service mission training requirements. Civilian contractors and Marine overstaffing is addressing the deficiency. Total Force Structure Division (TFSD) and POE conducted an OPT in Sept 2012 to address the issue and recommended three COAs:

- COA 1 - Optimal T / O
- COA 2 - Force structure constrained T / O
- COA 3 - Maintain current T / O

COA 3 was selected. If MEF SOTGs are required to provide additional training and certification support for SPMAGTFs, the issue will be exacerbated.

4.13 OPERATIONAL SCIENCE, TECHNOLOGY AND EXPERIMENTATION (OST&E)

The OST&E OAG is a forum for collaborative Operating Force interface with the Deputy Commandant, Combat Development and Integration (DC, CD&I), Marine Corps Warfighting Laboratory (MCWL), Office of Naval Research (ONR), requirements officers, resource sponsors, technical advisors, program managers, and other DoD Science & Technology (S&T) / acquisition entities to identify and prioritize issues of significance to Operating Force Commanders. The focus of the OST&E OAG is on science, technology, and experimentation issues of concern to the operating forces. The OAG makes recommendations with the intent of focusing and maximizing resources in order to provide measurable improvements in combat relevant functional capabilities to the Warfighter.

Doctrine: The OST&E OAG and its forward-looking priorities are guided by:

- Marine Corps Vision and Strategy 2025, establishing the foundation for Marine Corps operational concepts and identifies the critical steps needed to shape the Corps for an inherently unpredictable future.
- 35th Commandant of the Marine Corps Commandant's Planning Guidance, which identifies the Commandant's top priorities, including the need to aggressively experiment with and implement new capabilities in order to be well postured for the future.
- MCO 3900.15B, Expeditionary Force Development System, which states that the EFDS (now MCFDS) will guide the identification, development, and integration of warfighting capabilities for the MAGTF (MCO 3900.15C is currently in re-write).
- Marine Corps Service Campaign Plan (MCSCP) which is the lens through which CMCs priorities are acted upon to guide the development and sustainment of the Total Force.
- U.S. Marine Corps S&T Strategic Plan (due in 2014), which establishes priorities and provides direction for investment in the S&T needed to enable the future Marine Corps.

Organization: DC, CD&I serves as the S&T Advocate. CG, MCWL serves as the Executive Agent (EA) and proponent for S&T. The OST&E OAG is composed of representatives from the principal operating force commands, subject matter experts in USMC warfighting functional areas, as well as experts in the fields of science, technology, and acquisition. The OAG Executive Steering Committee consists of Science Advisors from the MARFORs, and MEFs. . The EA for S&T (MCWL) acts as the OAG Advocate, Vice Chair, and Executive Secretary. Other members include other S&T organizations and labs as invited by the OAG.

Materiel: The OST&E OAG annual output is the Unified Priority List (UPL). This document identifies areas in priority order, where S&T investment should be focused to close capability gaps. The solutions to the gaps are primarily materiel solutions. The 2013 UPL identifies the following gaps related to the Command Element:

- Interoperable C2 Systems:
  - Multi-level classification
  - Joint, SOG and coalition interoperability
  - Integrated air / ground / sea COP
  - Decentralized operations
- C2 Afloat:
  - Communications from ship to shore
  - Distributed C2

The UPL contains further detail and may be attained by contacting the Office of Science and Technology Integration at MCWL.

Leadership: The OST&E OAG Chair alternates annually between the Science Advisor at MARFORPAC and MARFORCOM. The OAG Vice Chair is the S&T Integration Manager at MCWL Office of Science, Technology and Integration (OSTI).

4.14 PUBLIC AFFAIRS / COMMUNICATION SYNCHRONIZATION (PA / CS)

Public Affairs (PA) provides the MAGTF and the broader Marine Corps the capability to research the information environment and engage key publics via multimedia communication products and live engagements in support of integrated communication strategies. PA systems (PAS), independent of the tactical network, facilitate research of the information environment, acquisition of video and still imagery, conduct of live media engagements, production and dissemination of communication products; and analysis of the effectiveness of communication strategies.

Doctrine: PA has completed an initial rewrite, review, and staffing of the MCRP 3-33.3A. Moving forward, PA will publish multiple volumes of the MCRP to cover all the Mission Essential Tasks for PA. PA will also initiate the revision of MCWP 3-33.3 with the release of a Publication Development Order. Overall, doctrine updates are ongoing in order to ensure alignment with current Marine Corps and DoD doctrine.

Organization: PA is undergoing an internal re-organization throughout the Marine Corps. The tenants of this reorganization include the rebalancing of PA structure to better support the OPFOR, consolidating PA capability at the MEFs, the creation of a Service-level PA surge capability, the vertical alignment of engagement processes and actions, and the alignment of Combat Camera proponency to PA, integrating production with release / distribution authority. The current structure and distribution of Public Affairs Marines impedes flexible, expedient application of Public Affairs capabilities, while limiting integration of communication activities across the MAGTF and across the Corps as a whole. In response to these issues, HQMC Division of Public Affairs (HQMC PA) proposed a reorganization of PA structure into Public Affairs Support Elements (PASE) at the MEFs (MPASE) and Service level Marine Corps Public Affairs Support Elements (MCPASE), and consolidated PA support at the regions. These elements can be quickly tailored and deployed to support operations across the ROMO to include supporting establishment activities while maintaining better integration / synchronization across adjacent and higher commands. This construct also improves oversight and linkage between HQMC strategic-level communication endeavors and PA forces across the Marine Corps.

Training: PA is seeking incorporation into the Joint PA School curriculum of new USMC PA task requirements. The MOS generating school for Public Affairs is a joint school (Defense Information School) that must accommodate the varied approaches to PA across the DoD. Marine Corps PA is soliciting, based on task analysis and the MCTLs, changes to the Defense Information Schools (DINFOS) curriculum to better support Marine Corps PA training requirements. Specifically, Public Affairs advocates completion of update to the PA training and readiness manual. PA will create more realistic exercise scenarios challenging commanders at all levels to consider strategic communications in their planning and battle rhythm.

Materiel: The Public Affairs Systems acquisition program (PAS MCPC 460198) is conducting a 100% refresh of the Public Affairs Video Editing System (PAVES) (A7200) and component refresh of Public Affairs Still Acquisition System (PASAS) (A7203). Additionally, the PAS acquisition program is an abbreviated acquisition program (January 2013) that achieved FOC in 2008 and is currently in the O&S phase of acquisitions. PAS acquisition program OCO to Base Operations & Maintenance, Marine Corps (O&MMC) funding transition PAS funding to 3d Army Defense Video & Imagery Distribution System (DVIDS) for sustainment and maintenance of Public Affairs News Link System (PANLS) (A7204) has historically been OCO funded however the PANLS requirements are a validated, enduring requirement. Transition of this funding is essential to maintaining PA capabilities. The OCO to Base OMMC transition competed well in POM15 but was delayed due to funding constraints. Continued failure to transition OCO OMMC funding to Base OMMC will result in the degradation of live media engagement and media hub services by FY16.

Leadership: PA needs to standardize Professional Military Education (PME) and POIs at all grades. PA portions of PMEs and POIs outside of the MOS are inconsistent resulting in varying levels of knowledge of PA capabilities thus limiting / reducing effective application of PA capabilities across the Marine Corps.

Personnel: HQMC PA is managing grade shaping / grade reduction initiatives as well as all aspects the of the PA reorganization.

Facilities: PA is examining potential facility implications related to MCPASE reorganization. PA is committed to the establishment of Public Affairs Support Elements (PASE) within the MEFs and at the Service level. These PA support elements will provide integrated planning and PA force packages that can be quickly deployed to support contingencies and steady state operations while maintaining better integration / synchronization across adjacent and higher commands. These elements will leverage PAS and commercial Internet Protocol enclaves to increase bandwidth and throughput for communication products while minimizing the impact on garrison networks and office space requirements.

4.15 RELIGIOUS MINISTRIES (RM)

The mission of religious ministry support in the Marine Corps is to accommodate the religious practices of personnel to facilitate the free exercise of religion for the Marines and Sailors serving in the Marine Corps, their family

members, and other authorized personnel. Religious ministry support develops and strengthens the spiritual and moral well-being of the Marines, Sailors, and their family members, thereby enhancing personal, family and unit readiness of the Marine Corps.

Doctrine: RM in the Marine Corps advocates free exercise of religion; attends to the sacred, spiritual, and moral aspects of life; and serves to enhance the resilience of service members, civilians, and their families who form the foundation of the Marine Corps' readiness. Religious ministry is entrusted to Navy chaplains and delivered under the authority of commanders and commanding officers. Commanders develop and strengthen the moral and spiritual well-being of the personnel under their command and encourage and support chaplains in the performance of their duties.

Organization: The Command Religious Program (CRP) is each command's total collection of all RM and associated activities planned and executed within a command. Navy chaplains are the only personnel authorized to supervise CRPs on behalf of commanders. Uniformed chaplains of the Military Departments are the only chaplains authorized to provide RM in CRPs.

Training: A chaplain is a religious ministry professional (RMP) endorsed by a religious organization (RO) and commissioned as a Naval officer. Chaplains are noncombatants. They are not authorized to obtain weapon qualifications or warfare qualifications or to bear arms in the performance of their duties. Chaplains do not participate in activities that compromise their status as noncombatants, violate the tenets of their Religious Organization (RO), or undermine confidential communication. Chaplains maintain competencies to effectively provide religious ministry according to the manner and form of their respective RO, effectively facilitate religious ministry requirements, care for all, and advise those served. A Religious Programs Specialist (RP) is the chaplain's primary enlisted assistant for managing and executing the CRP. RPs are combatants and are required to be weapons qualified in order to provide force protection for the Religious Ministry Team (RMT). Commanders support chaplains and RPs in maintaining the qualifications required to perform their duties. Commanders do this by ensuring appropriated funds, to include funds for travel, are authorized to support such training. Qualifications include: (a) RO-required training programs for chaplains; e.g., RO-specified conferences and spiritual formation events; and, (b) Navy-required training programs; e.g., Navy leadership training specific to current and future ranks, Naval Chaplaincy School and Center sponsored leadership courses, professional development and training conferences and workshops, and "F" schools. Commanders also authorize chaplains and RPs to attend area-wide RMT training, as operational commitments allow. Finally, Religious Ministry Teams should be identified as first responders in all emergency response plans. Training for these contingencies is required.

Materiel: Chaplains prepare and execute budgets of appropriated funds to support the CRP. When applicable, Chaplains serve as the Religious Offering Fund (ROF) administrator. Chaplains provide or facilitate RM support for command functions such as changes of command, retirements, promotions, and memorial ceremonies or services. Chaplains attend non-judicial punishment proceedings for command personnel when authorized by the commander. They cooperate with other RMTs and supervisory chaplains to plan, coordinate, and deliver religious ministry across command lines, as authorized by commanders such as standing chaplain duty, and offering pastoral care following mass casualty events. Chaplains support RM efforts during combined, joint, and multinational exercises and operations when directed by the commander.

Leadership: The Chaplain of the Marine Corps advises DC, CD&I and the Commandant of the Marine Corps on RM matters related to support, personnel, plans, programs, policy, and facilities within the Marine Corps. The Senior Religious Program Specialist Enlisted Leader serves as principal enlisted advisor to the Chaplain of the Marine Corps on matters relating to strategic planning, programming, policy, and leadership in the RP community. The Professional Naval Chaplaincy Executive Board (PNCEB) established under SECNAVINST 5351.1 is to assist the Chief of Navy Chaplains and the Chaplain of the Marine Corps in directing RM.

Personnel: When permanently attached to a general officer staff, the senior chaplain is assigned as a special staff officer to the commander under the chief of staff. At all other commands, the permanently attached senior chaplain is assigned as a special staff officer to the commander under the executive officer. When a command has only one chaplain temporarily attached, the chaplain serves as a special assistant to the commander. RPs are placed under the chaplain in the command's organizational structure. In circumstances potentially warranting RP placement elsewhere, commanders should consult with the senior supervisory chaplain and senior RP. Other members of the RMT are organized under the chaplain.

Facilities: Commanders maintain the CRP with logistical support, equipment, furnishings, facilities, budgeting activities, and appropriated funds consistent with other personnel programs. They do this by providing the RMT with dedicated work spaces that are readily accessible to personnel and adequate to meet the continuing requirement for private access to a chaplain as outlined in SECNAVINST 1730.10.

4.16 TRAINING & EDUCATION

TECOM develops, coordinates, resources, executes, and evaluates training and education concepts, policies, plans and programs to ensure Marines are prepared to meet the challenges of present and future operational environments. The MAGTF is the focal point of Marine Corps training and is

supported by the training and education continuum. As the Service lead in executing Title 10 training and education functions, TECOM fulfills its responsibilities through implementation of six core competencies across the T&E continuum; these are:

1. Transform civilians to Marines, imbued with our Warrior ethos and reflecting the Marine Corps' ethics and core values.
2. Provide Marines with the initial skills of their assigned Military Occupational Specialty (MOS) to allow them to function in the Operating Forces.
3. Provide progressive education and training that will allow Marines to assume increasing responsibilities, and increase their decision-making abilities.
4. Enable home station training to ensure the Operating Forces are able to function as MAGTFs in Joint environments.
5. Develop and execute Service-level training programs and assessments that support the readiness of MAGTFs to deploy in support of missions across the ROMO.
6. Identify and establish training in those common skills that are integral to all Marines, regardless of rank or MOS, and ensure that "Every Marine is a rifleman."

Five strategic goals provide the framework and priority for this implementation and directly support the T&E requirements outlined in the Marine Corps Service Campaign Plan; these are:

1. T&E Programs
2. Lead the Command
3. Technology
4. Resource Management
5. Personnel

Training: The T&E Program Goal is to provide quality T&E programs that support mission requirements. It aligns most directly with the TECOM mission and all other strategic goals are designed to support it. Four objectives comprise this goal effectively covering the TECOM mission set: Provide a MAGTF Training Program to train multi-capable Units and MAGTFs to operate with Joint, Inter-agency, and Multi-national forces as an integrated system through air, land, sea and Cyberspace domains; Train Marines to operate effectively within the MAGTF and increasingly complex environments; Continue to improve programs that challenge Marine, Joint, and Inter-agency, and Multinational leaders educationally so they may successfully perform across the ROMO; Optimize the ability to provide the right MOS qualified individual Marines through the Civilian-to-Marine transformation process to meet operational demands and achieve Personnel Tempo (PERSTEMPO) objectives. Enhance ability of operating forces to train at Home Station by optimizing LVC training.

Materiel: The Technology Goal aims to provide and sustain innovative technologies to support and deliver training and education programs. Through this goal, TECOM will improve the efficiency and effectiveness of its program delivery and support through integrated, enabling technologies. The Technology goal consists of two strategic objectives: Leverage technology to provide efficient and effective delivery of training and education, and Improve and maintain technology in support of training and education programs.

Leadership: The Command Goal addresses the need to govern and integrate TECOM efforts through strategy, standardized processes, and management tools. It will provide a consistent and transparent framework by which to make decisions that will impact the Marine Corps' T&E enterprise. The implementation of this goal is comprised of two strategic objectives: To optimize TECOM's impact on mission through a shared vision and clear lines of operation, and improve integration, decision-making, and business continuity through improved information sharing.

Personnel: The Personnel Goal is directed to ensure high-performing personnel by generating and sustaining a workforce that possesses the requisite skills to operate within current and emergent requirements (objective). This goal addresses recent FSRG guidance calling for a workforce reduction. Such a reduction necessitates finding ways to work more efficiently, which can be accomplished through training and educating personnel on command-wide processes, technology and policies.

Facilities: The Resource Management Goal addresses the need to provide support and resources necessary to execute institutionalized and emerging T&E programs by aligning programming and execution of resources to Command-level priorities (objective). This goal provides the strategic direction for the Command to ensure resources support (logistic / infrastructure) and provide the maximum benefit possible to T&E programs.

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05 SUMMARY

As stated in the foreword, this Roadmap is intended to provide an evolutionary path forward for the CE while also sustaining linkages to the *FY12* and *FY13 MAGTF C2 Roadmaps*. This document provides timely and comprehensive information regarding CE issues to Advocates, Proponents, Capability Developers, the Acquisition Community, Commanders and most importantly the OPFOR. Through this Roadmap, in concert with the other Advocate Roadmaps, the collaborative development of the MCEIP for POM-16, and the instantiation of the CPM process we will continue to strive to provide the most comprehensive and affordable approach to capability and concept development, investment and acquisition.

Figure 5.1: Marines return to Dock Landing Ship

06 APPENDICES

APPENDIX A: C2 PORTFOLIO PROGRAM STATUS CHARTS

This appendix contains individual quad charts and milestone tables for each POR in the MAGTF C2 portfolio, which are meant to supplement in greater detail the MAGTF C2 evolution diagram in Section 3 of this document. The quad chart and milestone snapshots below offer a preview of the data elements found within each POR status.

AN / TSQ-239 (V) Combat Operations Center (COC)

IMPACT STATEMENT: The COC is the nerve center of Marine Corps operations ashore and the focal point of C2 systems. The AN / TSQ-239 is a transportable operational facility that provides a commander with a fully integrated C2 infrastructure capable of rapid deployment and employment of a COC. Its modular design is scalable to allow a wide variety of configurations at all echelons of command from the battalion to the Marine Expeditionary Force (MEF).

PROGRAM OVERVIEW

DESCRIPTION: The AN / TSQ-239 is a transportable operational facility that provides a commander with a fully integrated C2 infrastructure capable of rapid deployment and employment of a COC. It provides the hardware that supports the operation of MAGTF C2 Systems and Applications (MC2SA) software. The concept of employment for the AN / TSQ-239 provides variants for the respective echelons of command within the MAGTF: The (V)1 MEF-size, is in Production and scheduled to field in 2014. The (V)2 Major Subordinate Command (MSC) / division size, (V)3 regiment-size, (V)4 battalion-size systems are in an operations and support phase.

CAPABILITY: Affords the MAGTF commander (battalion and above) the ability to rapidly deploy a capability to conduct collaborative planning while operating in any environment across the range of military operations (ROMO).

REQUIREMENT: Originated through an operational needs statement (ONS) (July 1995), which evolved into the Unit Operations Center and finally into the Combat Operations Center Operational Requirements Document (ORD).

PROGRAMMATIC RISK AREAS / ISSUES

- Implementation of virtualization training across the Marine Corps communications training continuum.
- Development and incorporation of the training requirements for the AN / TSQ-239 (V)1.
- Fiscal constraints could potentially place sustainment of the full AAO in jeopardy.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 4.4 - Provide Logistics Services
- 5.2 - Achieve Situational Awareness

Mitigates the following gaps:

- 15-5.2-G1 Maintain Situational Awareness during Amphibious or Mechanized Operations
- 15-5.2.1-G1 Common Tactical Picture
- 15-5.2.2-G1 Mission Partner Tactical Situational Awareness
- 15-5.2.1-G2 Information Sharing with CoalitioN / Mission Partners
- 15-5.2-G2 Kinetic / Non-Kinetic MAGTF Fires Situational Awareness
- 15-5.2-G3 Assess Effects of MAGTF Fires (Kinetic and Non-Kinetic MAGTF Fires)
- 15-5.2-G5 Developing Common Understanding of Information Environment
- 15-5.2.1-G4 MCEITS / Information Management
- 15-5.2-G4 Information Environment Factors
- 15-5.2.2-G2 Limited Ability to Develop Language, Regional Expertise and Cultural Understanding
- 15-5.2-G6 Joint, Interagency, Intergovernmental, Multinational (JIIM) Understanding of Information Environment

RELATIONSHIPS WITH OTHER PROGRAMS

- The COC hosts multiple Tactical Data System (TDS) software packages.
- The TDS owners are responsible for providing software updates and securing their unique accreditation.
- TDS and C2 software implementation includes, for example, C2PC, CPoF, JADOCS, EMT, JMTK, PFPS, JEM, JBV, and JFRG-II.
- COC maintains a working relationship with PG-15 for GETT, ITEG, trailer, and shelter requirements as well as “green” power initiatives.

AAO

- COC (V)1: 3 (1 per MEF)
- COC (V)2, 3 and 4: Post-MS C
- (V)2: 12
- (V)3: 73
- V(4): 139

IOC / FOC

- COC (V)1 IOC: 2013
- COC (V)2, 3 and 4 FOC: Q4 FY10

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
AN / TSQ-239 (V)1	3																																		
AN / TSQ-239 (V)2 MSC	11																																		
AN / TSQ-239 (V)3 Reg/Grp	70																																		
AN / TSQ-239 (V)4 SqdN / Bn	139																																		
ICB C2	-																																		
COC (V)2, 3, and 4 hardware modernization	-																																		

NOTES:

- There is currently no effort to develop an AN / TSQ-239 (V)5. However, a concept of employment has been published that addresses the requirements at the infantry company and below.
- This fielding schedule is based on an AAO of 210 systems which was agreed upon at the 2013 TE Review IPT. Reductions to tables of equipment have commenced in an attempt to ensure hardware modifications and software upgrades are not performed on equipment designated for disposal.
- AAOs reduced due to force structure reductions.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Common Aviation Command and Control Systems (CAC2S)

IMPACT STATEMENT: CAC2S is Marine Aviation's future command and control equipment; providing a common suite of equipment with an integrated air-ground-Intelligence tactical display to the Air Command Element (ACE) to command, control, and coordinate air operations in support of the MAGTF and Joint Force Commander (JFC).

PROGRAM OVERVIEW

DESCRIPTION: Common Aviation Command and Control System (CAC2S) will provide tactical situational display, information management, sensor and data link interface for planning & execution of Marine aviation missions within the MAGTF. CAC2S will provide a complete and coordinated modernization effort for the equipment of the Marine Air Command and Control System (MACCS), replacing AC2 capability for legacy Tactical Air Command Center (TACC), Tactical Air Operations Center (TAOC), and Direct Air Support Center (DASC) to support aviation employment in support of Joint and coalition operations. CAC2S will eliminate the current dissimilar aviation Command & Control systems, and will add capability for aviation combat direction and air defense functions by providing a single networked system. CAC2S will be the primary C2 system that integrates Marine air operations with other service and coalition aviation C2 agencies.

CAPABILITY: CAC2S will provide a common, real-time, integrated air / ground / intelligence tactical picture (situational display) with a fully integrated and networked operating facility, supporting the DASC, TAOC, and TACC with the timeliness and accuracy to control aircraft and missiles.

REQUIREMENT:

- Mission Needs Statement (MNS) dtd 26 April 1995
- Operational Requirements Document (ORD) dtd 1 Aug 2002
- Capabilities Planning Document (CPD) dtd 10 July 2007
- Joint Requirements Oversight Council (JROC) approval on 10 Sept 2007

PROGRAMMATIC RISK AREAS / ISSUES

Potential for insufficient training due to school seat limitations at the Marine Corps Communications / Electronics School (MCCES) during the legacy MACCS equipment phase out process in FY13-FY18.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 4.4 - Provide Logistics Services
- 5.2 - Achieve Situational Awareness
- 5.3 - Conduct Planning
- 5.4 - Establish Organizational Structures
- 5.5 - Direct Execution
- 5.6 - Disseminate Information
- 6.1 - Transport Information
- 6.3 - Optimize Networks
- 6.4 - Provide Information Assurance

Mitigates the following gaps:

- 15-5.2.1-G1 Common Tactical Picture
- 15-5.2-G5 Develop common understanding of information environment

RELATIONSHIPS WITH OTHER PROGRAMS

- CAC2S will replace the family of systems within the Marine Air Command & Control System Sustainment Portfolio (MACCS SP) program.
- CAC2S will integrate with the TPS-59 Radar, AN / TPS-80 Ground / Air Task Oriented Radar (G / ATOR), and the Composite Tracking Network (CTN) for sensor netting in order to support Integrated Fire Control.
- AN / MRQ-12 communication (voice & data) system serves as the baseline configuration for the CAC2S AN / MRQ-13 communication subsystem.
- Combat Operations Center (COC) Capability Sets II (V2) and III (V3) provide baseline Product for the CAC2S processing display & development (173 and 16 workstation) capability.
- CAC2S maintains a working relationship with Generator ECU Tent Trailer (GETT), Integrated Trailer ECU Generator (ITEG), and other shelter requirements and initiatives.

AAO

- Communication Subsystems (CS): 75
- Aviation Command and Control Systems (AC2S), previously known as the Processing and Display Subsystem (PDS) and Sensor Data System (SDS) (Phase 2): 50

Phase 1 (CS & PDS Only) Limited Deployment Capability (LDC):

- IOT&E Completed, Q3 FY11
- LDC (fielding) starts Q4 FY11, completion in FY13

IOC / FOC

N / A

SPECIFICATIONS

- Communication Subsystem (AN / MRQ-13) – Voice & Data
- PDS (AN / TSQ-273) – Tactical operator displays & networks
- AC2S (Phase 2) – Real time sensor input & multi data link capability

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Communication Subsystem (Phase 1)	67	CS Hardware & Software Sustainment																								CS Hardware & Software Sustainment Ends										
Communication Subsystem, (Phase 1 Supporting Establishment)	8	CS Hardware & Software Sustainment																								CS Hardware & Software Sustainment Ends										
Processing & Display Subsystem (Phase 1)	16	F																																		
Processing and Display Subsystem, (Phase 1 Supporting Establisment)	4 (fielded FY12)																																			
*Combined PDS/SDS, aka the Air C2 System (AC2S) (Phase 2)	39	D	D	C	L					I 4	F O			9	12	15	22	29	30	31	F 39															
*AC2S (Phase 2 Supporting Establishment)	11																	5	6																	

NOTES:

- CAC2S is an ACAT I-AC Major Automated Information System (MAIS) and the Joint terminology that is equivalent to that in the milestone table is as follows:
- IOC = Limited Deployment Capability (LDC).
- FOC = Full Deployment (FD).
- LRIP = Limited Deployment Unit (LDU).
- FRP = Full Deployment Unit (FDU).
- Of the Qty 75 CS, Qty 67 are the legacy AN / MRQ-12 and will be upgraded to become the CAC2S CS AN / MRQ-13.
- * AC2S (Phase 2) will replace Phase 1 PDS (Vendor Source Selection process completed in FY12).
- Marine Corps Communications / Electronics School (MCCES) and MCTSSA assets fielded.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Communications Security Cables (COMSEC)

IMPACT STATEMENT: COMSEC provides oversight of the Key Management Infrastructure (KMI), Technical Support of Configuration Management (CM), Cryptographic Modernization and key upgrades, and the interface between the primary end items and encryption devices that secure voice or data transmissions.

PROGRAM OVERVIEW

DESCRIPTION: Full-time COMSEC Liaison Program Office with a COMSEC Equipment Management Team (CEMAT) that can be used for dedicated asset and configuration management. COMSEC provides support for protected secure voice and data transmissions, the Electronic Key Management Systems (EKMS) transition to the Key Management Infrastructure (KMI), the National Security Agency (NSA) directed Cryptographic Modernization of the COMSEC infrastructure, and to Installations (base, posts, and station), PEIs, and programs of record COMSEC requirements. Resources are applied to cabling and interfaces for programs of record, contracted intermediate COMSEC logistics support to Marine units, the COMSEC lab at Marine Corps Tactical Systems Support Activity (MCTSSA), and LOGCOM warehouse support.

CAPABILITY: Full time COMSEC Liaison Program Office with a equipment Management Team (CEMAT) who can be used for dedicated asset and configuration management. This will provide the Marine Corps an ability to maintain relevancy with emergent Controlled Cryptographic Item (CCI) concepts and technological advancements promulgated by the Department of the Navy (DON) and NSA.

REQUIREMENT: Mission-Needs-Statement (MNS) for COMSEC cables dtd 10 Jan 1994.

PROGRAMMATIC RISK AREAS / ISSUES

- Identification of key roles and responsibilities on management of equipment and procurement responsibilities must be accomplished.
- Association of all CCIs within the Marine Corps with a PEI in the Total Force Structure Management System (TFSMS) is required.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capability:

- 6.4 - Provide Information Assurance

Mitigates the following gaps: N / A

RELATIONSHIPS WITH OTHER PROGRAMS

- COMSEC Liaison Program Office provides COMSEC support to 60 programs within various stages of the acquisition lifecycle.
- COMSEC modernization efforts for Principal End Items (PEI), like the KIV-7M, KG- 175D, and the VINSON / ANDVT Crypto Modernization (VACM), are facilitated through the COMSEC Liaison Program Office.


TKL


KIV-7M


KG-175 D

KSV-21

AAO

N / A

IOC / FOC

N / A

SPECIFICATIONS

N / A

This program has no associated milestone table.

Composite Tracking Network (CTN)

IMPACT STATEMENT: CTN is the key MAGTF C2 system interfacing with and supporting the Navy Cooperative Engagement Capability (CEC) providing critical fire-control quality data and sensor netting capability in support of Naval Air Defense operations. CTN provides for the sharing of measurement data from all sensors in the CEC network to provide accurate, composite, real-time airborne tracks to the Marine Air Command and Control System (MACCS).

PROGRAM OVERVIEW

DESCRIPTION: Composite Tracking Network (CTN) system is a sensor netting capability that integrates USMC ground based sensors with the Navy's surface and airborne sensors through the Cooperative Engagement Capability (CEC) network that provide an accurate, composite, real-time airborne tracks to the Marine air command and control system (MACCS) command and control (C2) node. CTN is key to providing an accurate representation of the airspace which will reduce ground to air and air to air fratricide, facilitate more effective integration of air and surface MAGTF Fires, extend the air defensive capability of the Naval force in Sea Shield, STOM , littoral operations and enables integrated fire control (IFC) for the Marine Corps. CTN is the potential bridging system between the naval sensor network and sensor networks being developed by the Air Force and Army.

CAPABILITY: The capability to generate and distribute extremely accurate, real-time, fire control-quality sensor data to air defense weapons platforms and air command and control (AC2) agencies throughout the battlespace. CTN will permit the MAGTF and other Joint forces to draw upon each other's radar detection data, capturing the different perspectives that each sensor has of its portion of the airspace and fusing it into a highly accurate, three-dimensional picture of the overall battlespace for the execution of anti-air Warfare (AAW), air defense (AD) and other air control operations. The CTN system when coupled with the Ground / Air Task Oriented Radar (G / ATOR) will enable integrated fire control (IFC) to counter increasingly capable and less detectable cruise missiles and manned aircraft; and in the future, tactical ballistic missiles in a joint environment.

REQUIREMENT:

- Mission Need Statement No. AAS 48 dtd 12 April 1995
- U.S Navy CEC ORD (SECRET) dtd 3 Dec 2001
- CEC O&O dtd 12 April 2006
- CTN CPD (in final staffing) Oct 2013
- U.S. Navy CEC CPD (SECRET) Dec 2012

PROGRAMMATIC RISK AREAS / ISSUES

CTN is only authorized to field ten systems due to current design limitations and a required manpower increase to fully implement the system's Concept of Employment (COE), which will not be fully realized until the fielding of the G / ATOR. The plan is to address the design limitations in future increments of CTN.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.2 - Achieve Situational Awareness
- 5.6 - Disseminate information
- 6.1 - Transport Information
- 6.3 - Optimize Networks

Mitigates the following gaps: N / A

RELATIONSHIPS WITH OTHER PROGRAMS

CTN feeds sensor data to the following systems:

- AEGIS
- CEC Marine Corps
- MACCS
- MTAOM
- CAC2S

CTN works in conjunction with the following systems to provide an integrated fire control picture:

- AN / TPS-59 (V3) Radar
- AN / TPS-80 G / ATOR

AAO

25

IOC / FOC

- IOC: Q2 FY11
- First 10 Systems FOC: Q4 FY13
- Remaining 15 Systems FOC: TBD

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A26007G CTN	25*																												F								

NOTES:

* 10 systems fielded in FY11–FY13. Fielding plan for remaining AAO of 15 systems is currently resource constrained. If funding provided, anticipate fielding remaining systems FY14–FY20.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
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- R — Refresh

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- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Defense Advanced Global Positioning System (GPS) Receiver (DAGR)

IMPACT STATEMENT: Handheld GPS, military-grade, dual-frequency receiver that has the security hardware necessary to decode the encrypted P(Y)-code GPS signal and incorporates anti-jam improvements for enhanced protection and is the first U.S. handheld GPS receiver program to include the next generation security device, Selective Availability Anti-Spoofing Module (SAASM).

PROGRAM OVERVIEW

DESCRIPTION: The Defense Advanced GPS Receiver (DAGR) is a military-grade, dual-frequency receiver, and has the security hardware necessary to decode the encrypted P(Y)-code GPS signal. It incorporates anti-jam improvements for enhanced protection and is the first U.S. handheld GPS receiver program to include the next generation security device, Selective Availability Anti-Spoofing Module (SAASM).

CAPABILITY: The handheld GPS receiver will be employed by infantry Marines down to the fire-team level in order to enhance the conduct of reduced-visibility, over-the-horizon air assault and surface insertions by Marine Expeditionary Units and other small units conducting raids, patrols, and military operations in urban terrain. The next generation handheld device must be in compliance with Congressional Mandate that all new procurements must be M-Code receivers (2017).

REQUIREMENT: GPS Operational Requirements Document (ORD) dtd 22 February 2001

PROGRAMMATIC RISK AREAS / ISSUES

- DAGR will require funding to support refresh and sustainment and participate in the design and fielding of the follow-on capability, the Joint Modernized GPS User Equipment (MGUE).
- Current contract expires in FY16.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.1 - Collect Information
- 5.2 - Achieve Situational Awareness

Mitigates the following gap:

- 15-5.2.1-G1 Common Tactical Picture

RELATIONSHIPS WITH OTHER PROGRAMS

DAGR provides position, location, navigation, and timing information for over 26 primary communications, MAGTF Fires and maneuver systems throughout the Marine Corps.

AAO

AN / PSN-13/13A (DAGR): 11,586

IOC / FOC

- IOC: Q2 FY06
- FOC: Q4 FY07

SPECIFICATIONS

- Selective Availability Anti-spoofing Module (SAASM) Compliant
- L1/L2-Band

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
AN / PSN-13 DAGR	11,586																																		

KEY/LEGEND

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- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Data Distribution System-Modular (DDS-M)

IMPACT STATEMENT: Supplies the Marine Corps tactical data backbone, extending the Marine Corps Enterprise Network (MCEN) to forward deployed forces. Provides firewalls, servers and all data infrastructure components to tactical and deployed USMC forces allowing them to connect into the Defense Information Systems Network (DISN).

PROGRAM OVERVIEW

DESCRIPTION: Data Distribution System - Modular (DDS-M) is comprised of two suites of scalable transit cased equipment that provides the MAGTF commander with a flexible network that can be increased or decreased in size based on mission requirements.

CAPABILITY:

- Core Suite: Provides Local Area Network (LAN) services, data storage, and application hosting to MAGTF units.
- Expansion Suite: Enhances the capabilities of the Core Modules by providing Wide Area Network (WAN) services consisting of routers and link accelerators, Information Assurance (IA) functionality including the MAGTF firewall and a core enterprise switch delivering flexibility and scalability of the LAN to the tactical commander.

REQUIREMENT:

- Operational Requirements Document (ORD) No. CCC 11.14; Change 6 dtd 02 Jun 2000
- First & Second endorsements of requirement for additional Deployed Security Interdiction Devices (DSID) and Deployed Information Assurance Tools Suite (DIATS) dtd 04 Nov 2008 and 10 Nov 2008
- Letters of Clarification (LOC) for Tactical Data Network (TDN) DDS-M dtd 14 April 2011; 18 October 2011

PROGRAMMATIC RISK AREAS / ISSUES

The DDS-M will assume a greater role in providing the network infrastructure when the DTC-R is phased out of the inventory. Funding, training, timing and Defense Information Systems Agency's (DISA) supportability of links are issues that are being addressed in a Warfighter Network Services Strategy (WFNS) study that will support future programmatic decisions.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.2 - Achieve Situational Awareness
- 6.1 - Transport Information
- 6.2 - Provide Enterprise Services
- 6.3 - Optimize Networks
- 6.4 - Provide Information Assurance
- 7.1 - Prevent Attack

Mitigates the following gaps:

- 15-6.2-G4 Resiliency
- 15-6.1.1-G1 Bandwidth to the desktop
- 15-6.2-G5 Intrusion detection
- 15-6.4.2-G2 Network intrusion detection
- 15-6.4-G3 Interoperability

RELATIONSHIPS WITH OTHER PROGRAMS

- Supports the employment of technical control systems such as DTC-R, JECCS and TSM.
- Provides network connectivity for CAC2S and COC.
- Hosts multiple application-based systems and equipment.
- In providing the core tactical data architecture and backbone for the Marine Corps, DDS-M supports all tactical programs requiring data connectivity.
- Provides the intermediate link between all transmission systems found within the TWTS & VSAT families of systems and tactical end-user devices.

AAO

Core Modules:

- Communications Security Module (CSM): 477
- LAN Services Module (LSM): 477
- Application Security Module (ASM): 477
- Data Storage Module (DSM): 477
- LAN Extension Module (LEM): 1908
- Configuration Module (CM): 477

Expansion Modules

- WAN Services Module (WSM)(V)1: 49
- WAN Services Module (WSM)(V)2: 876
- Information Assurance Module (IAM): 148
- Configuration Module (CM): 148
- Enterprise Switch Module (ESM): 62
- Power Module (PM): 111
- Multimedia Distribution Module (MDM): 54

IOC / FOC

- Core Modules IOC: Q2 FY12
- Core Modules FOC: Q2 FY13
- Expansion Modules IOC: Q4 FY13
- Expansion Modules FOC: Q4 FY14

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
DDS-M (Core)	-									R 25%				R 25%				R 25%				R 25%															
DDS-M (Expansion)	-				F									R 25%				R 25%																			

NOTES:

DDS-M will assume a greater role in providing the network infrastructure as the Marine Corps transitions from a Time Division Multiplexing (TDM) network to an Everything over Internet Protocol (EoIP) network as the DTC-R begins to collapse with the Reserves in the 4th quarter FY16.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
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JCIDS Milestones
- A — Milestone A
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Digital Technical Control Refresh (DTC-R)

IMPACT STATEMENT: As the primary communications hub for the interface between deployed, Joint, Coalition and MAGTF C4 nodes via terrestrial and satellite systems, DTC controls the flow of critical information to the MAGTF. It enables the MAGTF to exercise configuration control of command and control (C2) system through the integration of communications resources while providing a complete patching and testing center that can support high Bandwidth, multiple links, trunks and circuits for a large scale MAGTF operation.

PROGRAM OVERVIEW

DESCRIPTION: The AN / TSQ-227A Digital Technical Control (DTC) integrates Commercial Off-the-Shelf (COTS) / Government Off-the-Shelf (GOTS) equipment within a mobile S280 tactical shelter which is transportable via Medium Tactical Vehicle Replacement (MTVR). The DTC supports MAGTF C2 communications mission objectives and is the ONLY robust telecommunications facility that can support, troubleshoot and maintain quality control of multiple high Bandwidth links, trunks and circuits in the tactical environment. Employed at the MSC & MEF HQs, the DTC is the primary communications hub for the interface between deployed, Joint, Coalition and MAGTF C4 nodes, via terrestrial and satellite systems. DTC also provides Technical Control, Circuit Switching, Multiplexing, Communication (Trunk and Link) Security, Configuration / Network Management, and System Timing.

CAPABILITY: Communications multiplexing, patching, network management and telephone switching for the MAGTF.

REQUIREMENT:

- Operational Requirements Document No. CCC 11.3 w/ Ch 1-3, dtd 2 April 1998
- CD&I Letter of Clarification (LOC) dtd 6 July 2009
- Net-Ready Key Performance Parameter stated in DTC ORD Ch 4, dtd 28 Mar 2011: Compliance with applicable Global Information Grid (GIG) Key Interface Profiles (CJCSI 3170.01G)

PROGRAMMATIC RISK AREAS / ISSUES

- The DTC is planned to begin sundowning in FY16 due to funding constraints and the transition from Time Division Multiplexing (TDM) to an Everything over IP (EoIP) network.
- Funding, training, timing and Defense Information Systems Agency's (DISA) supportability of links are issues that are being addressed in a Warfighter Network Services Strategy (WFNS) study that will support future programmatic decisions.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 6.1 - Transport information
- 6.3 - Optimize Networks
- 6.4 - Provide Information Assurance
- 7.1 - Prevent Attack

Mitigates the following gaps:

- 15-6.1.1-G2 Bandwidth to the node level
- 15-6.3.2-G3 Degraded ability to deploy a robust network capable of meeting the full data requirements of the MAGTF
- 15-6.1.3.1-G1 Network engineering and integration
- 15-6.4-G3 Interoperability

RELATIONSHIPS WITH OTHER PROGRAMS

- Supports all Marine Corps transmission systems found in the TWTS and VSAT family of systems.
- Supports capabilities provided by DDS-M and TSM.

AAO

Total: 32

- MEF: 21 (7 per MEF)
- Marine Forces Reserve (MARFORRES): 6
- Marine Corps Communications Electronics School (MCCES): 2
- Marine Corps Tactical Systems Support Activity (MCTSSA): 3
  - 2 clam shell trainers
  - 1 test facility

IOC / FOC

- IOC: Q4 FY12
- FOC: Q3 FY13

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
DTC-R	32															X																				

NOTES:

Minimum Capability Activities.

- FY16: DTC-R Collapse begins with the Reserves in the 4th quarter FY 6.
- FY17 3rd Quarter: All DTC-R platforms will be out of the inventory.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
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- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
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- TRb — Transition Begins
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JCIDS Milestones
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Expeditionary Command & Control Suite (ECCS)

IMPACT STATEMENT: The ECCS is a transit case/suitcase Satellite Communication (SATCOM) and network solution providing Secure Internet Protocol Router Network (SIPRNet), Non-classified Internet Protocol Router Network (NIPRNet), voice, video and data services to small early entry forces enabling the capability to communicate over-the-horizon with higher headquarters at the MEU and Special Purpose MAGTF level until more robust Command and Control (C2) systems and networks are established. Primarily used for crisis response, it is the tactical extension of the Marine Corps Enterprise Network (MCEN) utilized in short duration operations.

PROGRAM OVERVIEW

DESCRIPTION: The ECCS is a transit case / suitcase solution providing beyond line of sight SIPRNet, NIPRNet, voice, and video reach back with higher headquarters to early entry forces until larger C2 systems are established. The ECCS consists of a Rapid Response Kit (RRK), Commander's Kit (CK), and the Consolidated Base Station (CBS). The ECCS can be employed by one Marine and support up to a team of 15 Marines. ECCS enables CMDRs to tailor initial entry forces for a wide range of crises, from forcible entry to humanitarian assistance. ECCS provides CMDRs connectivity to the Global Information Grid (GIG) Net Centric Enterprise Services (NCES) from remote and austere locations in theater. It operates on commercial SATCOM bands, L/UHF Band, and commercial ISP.

CAPABILITY: Extends DISN services to lead elements of a deployed JTF with reach back to the Global Information Grid and allows mission planning, C2, and situational awareness.

REQUIREMENT:

- CD: signed 26 October 2005
- Operational and Organizational Concept (O&O) signed 28 September 2008
- Letter of Clarification to the O&O signed 29 February 2012
  - Change 1 to the Letter of Clarification signed 2 November 2012

PROGRAMMATIC RISK AREAS / ISSUES

Expeditionary Command and Control Suite (ECCS) was defunded during POM-15. The capabilities resident in ECCS will be provided by the Very Small Aperture Terminal (VSAT) and DDS-M programs.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capability:

- 6.1 - Transport Information

Mitigates the following gaps:

- 15-6.1-G1 Communicate information across the force throughout the OE
- 15-6.1.1-G2 Bandwidth to the node level

RELATIONSHIPS WITH OTHER PROGRAMS

ECCS will be interoperable on the RF side with all DoD Mil-Std-188-165 satellite terminals on Ku-Band, and X-Band.

AAO

- RRK: 39
- CK: 33
- CBS: 4

IOC / FOC

- IOC: Q2 FY14
- FOC: TBD

SPECIFICATIONS

- RRK: 5-15 users
- CK: 1-5 users
- CBS: Supports services for forward deployed units

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Rapid Response Kit	39		I												X																				
Commanders Kit	33														X																				
Consolidated Base Station	4		I												X																				

NOTES:
ECCS was terminated in POM-15.

KEY/LEGEND

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Operational Capabilities
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Testing
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Global Broadcast Service (GBS)

IMPACT STATEMENT: The Global Broadcast Service (GBS) provides a worldwide, high capacity, one-way transmission of video, imagery, and other information as required supporting joint military forces in garrison, in transit, and in theater: Space based, high data rate communications link for the asymmetric flow of information from the United States or rear echelon locations to deployed forces.

PROGRAM OVERVIEW

DESCRIPTION: The Global Broadcast Service (GBS) provides a worldwide, high capacity, one-way (receive only) transmission of video, imagery, and other information as required to support joint military forces in garrison, in transit, and in theater. GBS uses a space-based, high data rate communications link for the asymmetric flow of information from the United States or rear echelon locations to deployed forces. Capability relieves the demand for Bandwidth on critical duplex SATCOM systems. It uses commercial direct broadcast satellite technology to provide critical information to the nation's warfighters. The receive suite disseminates global broadcasts, at up to 45 megabits-per-second of classified and unclassified information Products such as: imagery, Intelligence, Full Motion Video (NTSC and Digital), theater message traffic, joint and service-unique news, weather, MWR programming, mapping, and logistics. Other information Products include Operations Plans (Op Plans), as well as audio and video feeds such as civilian broadcast news, (i.e. CNN, FOXNEWS) and Predator Unmanned Aerial Vehicle (UAV) transmissions.

CAPABILITY: The AN / TSR-11 Transportable Ground Receive Suite (TGRS) upgrade will facilitate reception of new DVB-S2 with transmission security (TRANSEC) broadcast with a fully integrated Joint Internet Protocol Modem (JIPM).

REQUIREMENT:

- Joint Mission Needs Statement of 3 August 1995
- Marine Corps Operational and Organizational (O&O) Concept dtd 22 September 2005

PROGRAMMATIC RISK AREAS / ISSUES

N / A

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.5 Direct Execution
- 5.6 Disseminate Information
- 6.1 Transport Information
- 6.2 Provide Enterprise Services

Mitigates the following gaps:

- 15-6.1-G1 Communicate information across the force throughout the OE
- 15-6.1.1-G2 Bandwidth to the node level

RELATIONSHIPS WITH OTHER PROGRAMS

- Relies upon the Ultra High Frequency Follow-On (UFO) satellite constellation.
- Relies upon the Wideband Global SATCOM (WGS) satellite constellation.
- The broadcast segment of GBS is dependent upon the Defense Enterprise Computing Center (DECC) Program Office.

AAO

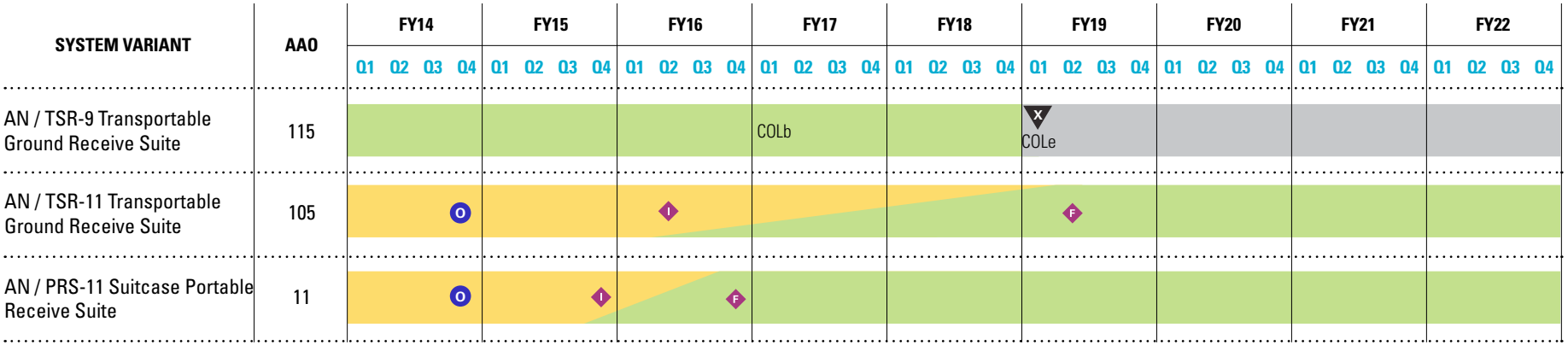
- AN / TSR-9: 115
- AN / TSR-11:105 (Replacing TSR-9)
- AN / PRS-11: 11

IOC / FOC

- IOC: Q3 FY08
- FOC: Q4 FY12

SPECIFICATIONS

- Up to 45 Mbps throughput
- 1-meter antenna
- WGS constellation
- Ultra High Frequency Follow-On (UFO) constellation Ka-Band
- Commercial (Ku-Band)
- Type I and II enclaves
- Video converter with remote



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Operational Capabilities
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Global Command & Control System (GCCS) – Tactical Combat Operations (TCO)

IMPACT STATEMENT: GCCS-TCO is the primary Situational Awareness (SA) tool for the Marine Corps, providing MAGTF Commanders at all echelons with a common operating environment through which they can plan, execute and manage operations. GCCS-TCO ensures interoperability within the MAGTF, and with combatant commanders, Joint Task Forces (JTF) and other Services.

PROGRAM OVERVIEW

DESCRIPTION: Global Command and Control System - Tactical Combat Operations System (GCCS-TCO), when coupled with COC and MC2SA programs represents the core C2 capabilities and provide the primary C2 functionality within the MAGTF. GCCS-TCO is the principal tool within the MAGTF for situational awareness through distribution of the Common Tactical Picture (CTP), and is the primary entry point for the Common Operational Picture (COP). GCCS-TCO provides Commanders at all echelons with the ability to map and display friendly and enemy locations, as well as plan, develop, display, and transmit overlays of intended movement. GCCS-TCO also provides Commanders in both garrison and tactical operations the ability to receive, fuse, store, develop, transmit and display commanders' critical information requirements (CCIR).

CAPABILITY: Provide core C2 capabilities that afford MAGTF commanders at all levels with a common operating environment to execute operations and unit readiness functionality, both within & external to the MAGTF.

REQUIREMENT:

- TCO Operational Requirements Document (ORD) - April 1995
- USMC Mission Need Statement (MNS) - June 1995
- DISA GCCS-J Block V Reqs ID document (RID) - Aug 2005
- Supports JROC validated JC2 CDD Update – JROCM 073-13, 9 Apr 2013

PROGRAMMATIC RISK AREAS / ISSUES

- Joint agreements: GCCS-TCO maintains USMC agreements to "Do No Harm" to the Warfighter, per JROCM 145-09.
- Joint C2 development: GCCS-TCO supports USMC development of JC2 capabilities such as C2 alerting, C2 user training and Global Force Management – data initiative.
- Training: No school training for GCCS-TCO users. System training & software update management dependent upon SPAWAR Program Office.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 2.1 - Plan and Direct Intelligence Operations
- 2.5 - Disseminate and Integrate Intelligence
- 5.2 - Achieve Situational Awareness
- 5.3 - Conduct Planning
- 5.4 - Establish Organizational Structures
- 5.6 - Disseminate Information

Mitigates the following gaps:

- Gap 14. 15-5.2-G1 - Develop and maintain shared situational awareness
- Gap 17. 15-6.1-G1 - Communicate info across the force.
- Gap 43. 15-5.2.1 / 2-G1 - Common Tactical Picture/ Mission partner situational awareness
- Gap 51. 15-5.2.1-G2 - Information sharing with coalitioN / mission partners
- Gap 64. 15-5.3.1-G2 – Collaborative planning

RELATIONSHIPS WITH OTHER PROGRAMS

Global Command and Control System – Tactical Combat Operations (GCCS-TCO) is directly connected to the following programs:

- Global Command and Control System – Joint (GCCS-J)
- MAGTF C2 Systems and Applications (MC2SA)
- Combat Operations Center (COC)
- Intelligence Analysis System (IAS)

AAO

- Tactical COP Server (TCS): 320
- Tactical COP Workstation (TCW): 1452

IOC / FOC

- IOC: 1996
- FOC: 1998, currently post-Milestone C

SPECIFICATIONS

- TCS – C2 applications all MAGTF echelons regiment and above.
- TCW – C2 applications all MAGTF echelons battalion and above.
- Servers and workstations are COTS.

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
GCCS Client V4.2.0.3	314					X																													
GCCS-TCO Tactical COP Server (TCS) V4.3	320		C																																
GCCS-TCO Tactical COP Server (TCS) Global Lite V2.0	320			D	C																														
GCCS-TCO Tactical COP Server (TCS) Global Lite V2.X	320						P			P		P		P																						
GCCS-TCO Tactical COP Server (TCS) Global Lite V3.0	320														D	C																				
GCCS-TCO Tactical COP Server (TCS) Global Lite V3.X	320																		P		P		P		P											

NOTES:

* Annual 10% Combat loss refresh/Full hardware Update every 3 years (FY15 & 19).

- GCCS s/w to combine with the JTCW s/w in FY13.
- GCCS h/w to combine with the TCO h/w in FY13.
- TCO renamed to GCCS-TCO in FY13.
- GCCS will be sunset at the beginning of FY14.

KEY/LEGEND

Production
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Joint Battle Command Platform (JBC-P) Family of Systems (FoS)

IMPACT STATEMENT: Formerly associated with the Blue Force Tracker (BFT) FoS and JBC-P, JBC-P comprises of L-Band SATCOM and is a digital, battle command information FoS that provides integrated, on the move, timely, relevant Command and Control Situational Awareness (C2SA) information to tactical combat, combat support and combat service support commanders, leaders, and key C2 nodes.

PROGRAM OVERVIEW

DESCRIPTION: The Joint Battle Command-Platform (JBC-P) Family of Systems (FoS) program is an Army led ACAT II program of JROC interest formerly known as the Blue Force Tracker (BFT) FoS. It is comprised of L-Band SATCOM and is a digital, battle command information FoS that provides integrated, on the move, timely, relevant C2SA information to tactical combat, combat support and combat service support commanders, leaders, and key C2 nodes. JBC-P FoS will provide JROC mandated C2SA convergence across aircraft, ground vehicles and dismounted personnel in a joint environment.

CAPABILITY: JBC-P FoS, through the BFT-2 network, will provide, across the services, unprecedented near real time Common Tactical Picture viewing at the platform and dismounted levels (3 second delay-current BFT-1 delay experience between 5 to 10 minutes).

REQUIREMENT:

- JROC approved Capabilities Development Document (CDD) in lieu of Capabilities Production Document (CPD) (March 2013)
- JBC-P CDD (May 2008)
- Army's Force XXI Battle Command Brigade and Below (FBCB2) ORD
- USMC's Data Automated Communications Terminal (DACT) ORD

PROGRAMMATIC RISK AREAS / ISSUES

- The on-time refresh of existing systems is uncertain due to resource constraints.
- BFT network coverage is transitioning from Overseas Contingency Operations (OCO) funding to individual service responsibilities. In this fiscally constrained environment, funding the network coverage adds an additional layer of risk to this capability not experienced before.
- Data Product processes and software for initialization of the system are currently in development and do not organically exist within the USMC.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

- Provides the following capabilities:
- 5.1 - Collect Information
- 5.2 - Achieve Situational Awareness
- 6.1 - Transport Information (mistakenly omitted from MCEIP)

Mitigates the following gaps:

- 15-6.1.1-G3 - On-the-move capacity
- 15-6.1-G1 - Communicate info across the force throughout OE (Mech)
- 15-5.2.1-G1 -Common tactical picture
- 15-5.2.2-G1 - Mission partner tactical situational awareness

RELATIONSHIPS WITH OTHER PROGRAMS

- JBC-P is reliant upon existing BFT FoS hardware, as the initial fielding will be installation of JBC-P software onto existing BFT FoS hardware.
- The JBC-P handheld will require access to USMC tactical data radio networks provided by TCM. The AN / PRC-117G will be the primary data radio the JBC-P Handheld will employ to access data networks at the platoon level. For below platoon operations, the JBC-P handheld will interface with the solution selected for wideBand tactical handheld radio (WB THHR) and will be able to provide C2 / SA data to the Infantry Squad leader.
- The JBC-P CP Kit will share C2SA information with the Joint Tactical COP (Common Operational Picture) Workstation (JTCW) and provide a synthesized Common Tactical Picture (CTP) of celestial (JBC-P) and terrestrial (USMC data networking radio) tracks.
- JBC-P FoS fielded at the lower echelons is completely dependent on the power generation capabilities provided by Expeditionary Energy Office (E2O).

AAO

- A90017G, JBC-P Vehicle Mounted System: 13,542
- A90897G, Command Post Kit (upgrade to TOC Kit): 1,371
- A04107G, JBC-P Handheld: 6,920
- JBC-P handheld distribution is based on echelon of fielding to the MEU, ANGLICO, CEB / CAB, RECON, MARSOC, and infantry battalion.
  - Platoon echelon: 1,354
  - Recon team and squad leader echelon: 5,566

IOC / FOC

- IOC: attained when one Marine Corps RCT is completely fielded with all variations of the JBC-P Product Line.
- FOC: attained when JBC-P is fielded to all scheduled units, when Marines are considered proficient in JBC-P. and considered combat deployable with a logistically supportable system, and when a joint combined arms exercise has been completed.

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
JBC-P Mounted System*	13,542	JCR Fielding Software Upgrade				TRb TRe			I								F					R				R				R				R		
TOC Kit*	1,371	JCR Fielding Software Upgrade				TRb TRe			I								F					R				R				R				R		
JBC-P Dismounted	6,920							U	I					R		M	F	R		M		R		M		R				R				R		
Program & NIE Test Schedule**	-	NIE			M	NIE			O	NIE			O	NIE			O	NIE			O	NIE			O	NIE			O	NIE			O	NIE		
		D			NIE	✱			NIE				NIE				NIE				NIE				NIE				NIE				NIE			
Software Release	Increment build				P				P				P				P				P				P				P				P			

NOTES:

*The only difference between JCR fielding and JBC-P Inc 2 fielding for JBC-P Mounted and CP Kit systems is the software upgrade.

JBC-P software development releases capability in an incremental build with one major build release per year.

**Network Integration Evaluation (NIE) is a major exercise conducted biannually at White Sands Missile Range. This is a major test event from which many Army programs, including JBC-P, base their evaluation testing schedule.

Quantities were omitted from refresh rates as AAOs will be shaped based off of Sequestration.

KEY/LEGEND

Production
- L: LRIP: Low-Rate Initial Production
- F: FRP: Full-Rate Production
- P: Software Patch
- U: Upgrade
- R: Refresh

Operational Capabilities
- I: IOC: Initial Operational Capability
- F: FOC: Full Operational Capability

Testing
- D: DT&E: Developmental Test and Evaluation
- I: IOT&E: Initial Operational Test and Evaluation
- F: FOT&E: Follow-On Operational Test and Evaluation
- M: MOT&E: Multi-Service Operational Test and Evaluation
- O: OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb: Transition Begins
- TRe: Transition Ends
- COLb: Collapse Begins
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- EoL: End of Life

JCIDS Milestones
- A: Milestone A
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- C: Milestone C
- X: Program Termination
- ✱: Fielding Decision

Joint Communications Support Element (JCSE)

IMPACT STATEMENT: This program provides for the Marine Corps' portion of the overall JCSE bill to support this Joint program which provides early entry, scalable C4 support to the regional combatant commands, Special Operations Command, and other agencies as directed.

PROGRAM OVERVIEW

DESCRIPTION: Joint Communication Support Element (JCSE) program provides Marine Corps fair-share acquisition support to the JCSE unit as mandated by Chairman, Joint Chiefs of Staff (CJCS), generally in the form of equipment procurement. JCSE provides rapid, reliable, interoperable communications linking joint task force (JTF) commanders and their staffs to the President, the Secretary of Defense, combatant commanders and their component headquarters, allies and coalition partners. Supports pooled equipment for support, as required, to designated headquarters elements.

CAPABILITY: Maintain en-route, early entry, scalable C4 support to the regional combatant commands, Special Operations Command, and other agencies as directed; on order, provides additional C4 services within 72 hours to support larger JTF headquarters across the full spectrum of operations.

REQUIREMENT:

- U.S. Joint Forces Command (USJFCOM) JCS SM-94-83 of 9 Feb 1983
- Department of the Navy (DON) Memo 941CP / 3230-87 USN / USMC Sharing of JCSE Modernization Cost
- JCS Memo MCM- 0012-08

PROGRAMMATIC RISK AREAS / ISSUES

JCSE is a mandated requirement of which the Marine Corps is responsible for funding approximately eight percent of the overall DON resourcing requirement.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.3 - Conduct Planning
- 5.5 - Direct Execution
- 6.1 - Transport Information

Mitigates the following gap:

- JCSE does not mitigate any Marine Corps specific gaps, however it helps to mitigate multiple Joint gaps.

RELATIONSHIPS WITH OTHER PROGRAMS

Independent, supports Joint commanders.

AAO

N / A

IOC / FOC

N / A

SPECIFICATIONS

N / A

This program has no associated milestone table.

Joint Enhanced Communication Core System (JECCS)

IMPACT STATEMENT: Joint Task Force (JTF) enabler 'first in' integrated, processor controlled communications and management system that provides all required initial Command and Control (C2) connectivity equipment in a single package, decreasing field setup time while increasing capability, flexibility, and mobility. Supports a Marine Expeditionary Unit (MEU) deployment ashore or the early phases of a larger MAGTF or Joint Task Force (JTF) command element's mission into an Area of Operations.

PROGRAM OVERVIEW

DESCRIPTION: The AN / TSQ-231 Joint Enhanced Core Communications System (JECCS) is a vehicle-mounted, MEU / MEB echelon-focused "first in" C2 capability that provides Defense Information Systems Network (DISN) telecommunication services, Wide and Local Area Network (SIPRnet and NIPRnet) protected behind its own self-contained firewall, as well as physical network management services, messaging services, INMARSAT, GBS, and UHF-TACSAT capabilities. The system will support three simultaneous digital trunk groups, and utilizes satellite communications systems (e.g. VSAT and LMST), AN / TRC-170s, or AN / MRC-142s as transmission interfaces.

CAPABILITY: Complete technical control, voice switching, information assurance, firewall and data capability.

REQUIREMENT:

- First-In Command and Control Suite (for MEUs) (FICCS) Statement of Need (SON) dtd 5 Oct 2001.
- JECCS Refresh CD&I Letter of Clarification (LOC) dtd 13 Sep 2010.

PROGRAMMATIC RISK AREAS / ISSUES

- Limited training opportunities due to small AAO.
- Transition from time division multiplexing (TDM) to Everything over IP (EoIP) will require technical upgrades.
- Funding, training, timing and Defense Information Systems Agency's (DISA) supportability of links are issues that are being addressed in a Warfighter Network Services Strategy (WFNS) study that will support future programmatic decisions.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 6.1 - Transport information
- 6.3 - Optimize Networks

Mitigates the following gaps:

- 15-6.1.1-G2 Bandwidth to the node level
- 15-6.3.2-G3 Degraded ability to deploy a robust network capable of meeting the full data requirements of the MAGTF
- 15-6.1.3.1-G1 Network engineering and integration
- 15-6.4.2-G2 Network intrusion detection
- 15-6.4-G2 Continuous Assessment and Defense of the Network

RELATIONSHIPS WITH OTHER PROGRAMS

- Supports, and works in conjunction with, multiple communications programs, to include: DDS-M, DTC, TSM, and COC.
- Utilizes transmission systems found in the LMST, TWTS and VSAT programs.

AAO

Total: 14

- MEU: 7 (1 per MEU)
- I MEF: 2
- II MEF: 2
- III MEF: 1
- Marine Corps Communications / Electronics School (MCCES): 1
- Marine Corps Tactical Systems Support Activity (MCTSSA): 1

IOC / FOC

- IOC: Q4 FY04
- FOC: Q4 FY08 (JEECS Block II)

SPECIFICATIONS

- Power: 120 / 208v, 3-Phase, 50-60 Hz
- High Mobility Multipurpose Wheeled Vehicle (HMMWV) mounted, must be stationary for use.

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
JECCS	14	R:14																																			

KEY/LEGEND

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- M — MOT&E: Multi-Service Operational Test and Evaluation
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Joint Forces Requirements Generator (JFRG II)

IMPACT STATEMENT: Joint Force Requirements Generator (JFRG) II is a software application designed to provide the Joint services with a state-of-the-art, integrated, and deployable Automated Information System (AIS) that supports strategic force movements within the mandated 72-hour timeframe.

PROGRAM OVERVIEW

DESCRIPTION: Joint Force Requirements Generator (JFRG) II is a software application designed to provide the Joint services with a state-of-the-art, integrated, and deployable Automated Information System (AIS) that supports strategic force movements within the mandated 72-hour timeframe. JFRG II provides rapid force list creation and interfaces with Joint Operational Planning and Execution System (JOPES), Transportation Coordinators' Automated Information for Movement System (TC-AIMS) II, MAGTF Deployment Support System (MDSS) II, and the War Reserve System (WRS).

CAPABILITY: An enterprise-based, service-oriented architecture system capable of sharing data across the enterprise and replacing out dated point-to-point interfaces. Support the research/ development, fielding, implementation, training and maintenance of JFRG I.

REQUIREMENT:

- Joint Requirement Oversight Committee (JROC) Memo dtd 5 May 2000 designating the Marine Corps as the Executive Agent for JFRG II
- HQMC Statement of Need (SON) dtd 2 Aug 2010
- JFRG II Letter of Clarification (LOC) dtd 12 Mar 2012
- JROCMs 034-09 and JROCM 032-11

PROGRAMMATIC RISK AREAS / ISSUES

Lack of funding will delay the fielding and implementation of v1.6 and result in a major loss of force deployment capability for the joint community due to incompatibility with GCCS-J architecture. Systems will remain at the current security posture with only minor modifications to sustain accreditation.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 1.1 - Force Management
- 4.1 - Provide Deployment and Distribution Support
- 5.1 - Collect Information
- 5.2 - Achieve Situational Awareness
- 5.3 - Conduct Planning
- 5.6 - Disseminate Information
- 6.2 - Provide Enterprise Services

Mitigates the following gap: N / A

RELATIONSHIPS WITH OTHER PROGRAMS

JFRG interfaces with the following programs:

- JOPES
- GCCS-J
- COC
- TC-AIMS II
- MDSS II

AAO

N / A

IOC / FOC

- Version 1.4.4 IOC: Q2 FY10
- Version 1.4.4 FOC Q1 FY11
- Version 2.0 FOC: Q3 FY16

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
V. 1.4.4	-																																		
V. 2.0	-											F																							

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Joint Interoperability of Tactical Command and Control Systems (JINTACCS)

IMPACT STATEMENT: Provides for development and validation of C2 / SA data architectures between Army and Marine Corps systems and enables participation in Marine Corps, Joint, and Coalition Interoperability Certification testing processes (CIAV, JITC, DICE / JUICE) to verify implementation of USMC capability set requirements.

PROGRAM OVERVIEW

DESCRIPTION: Joint Interoperability of Tactical C2 Systems (JINTACCS) resides at Marine Corps Systems Command (MCSC) under Systems Engineering, Interoperability, Architextures, & Technology (SIAT) oversight but primarily executed by the Interoperability Branch at Marine Corps Tactical Systems Support Activity (MCTSSA). Created as a non-acquisition research and development (R&D) engineering program it provides for critical engineering services in multiple areas. JINTACCS is essential to USMC development and maintenance of tactical data exchange standards (Link 16, VMF, MTF, etc.), maintenance of C2 systems interoperability issues, development of Net Centric standards (UCore, C2 Core, XML, Web Services) to meet requirements of DoD / USMC Net Centric Data Strategy, and participation in Marine Corps and Joint Interoperability Certification testing.

CAPABILITY: Development and maintenance of tactical data exchange standards (Link 16, VMF, MTF, etc.) to maintain C2 systems interoperability. Development of Net Centric standards (UCore, C2 Core, XML, Web Services, etc.) to meet requirements of DoD / USMC Net Centric Data Strategy. Full participation in Joint Interoperability Test Command (JITC) directed certification testing program.

REQUIREMENT: While there is no specific requirements documentation that directs the establishment of JINTACCS, the following provides a list of policies which JINTACCS supports:

- Marine Corps Orders (MCO) 3093.1C and 3093.3
- MCO 5231.3
- Chairman, Joint Chiefs of Staff Instruction (CJCSI) G
- Department of Defense Directive (DoDD) H

PROGRAMMATIC RISK AREAS / ISSUES

Funding constraints have the potential to limit support for standards development and new initiatives.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 9.3 - Information Management
- 9.4 - Acquisition and Technology

Mitigates the following gap:

- 15-9.3.1-G1 Enterprise Architecture

RELATIONSHIPS WITH OTHER PROGRAMS

- MAGTF C2 Interoperability - Supports development, evaluation, and implementation of Joint military standards (MIL STD) in MAGTF C2 Systems.
- Joint Interoperability - Supports maintenance of fielded TDES such as Link 16, Variable Message Format (VMF) and U.S. Message Text Formats (USMTF). Supports development of net centric data exchange standards (e.g. TSOA, C2 Core) for USMC and Joint capability sets.
- Marine Corps / Joint Interoperability Certification Testing - Joint Participating Test Unit Coordinator (PTUC). Provides test and analysis capability for all MAGTF C2 systems standards conformance and Joint Interoperability Certifications.

AAO

N / A. This is a level of effort program.

IOC / FOC

N / A

SPECIFICATIONS

N / A

This program has no associated milestone table.

Lightweight MultiBand Satellite Terminals (LMST)

IMPACT STATEMENT: A Super High Frequency (SHF) quad-band (C-band, X-band, Ku-band, and Ka-band) wideband satellite communications ground terminal system that can be used as either the hub or spoke terminal in a satellite communication network.

PROGRAM OVERVIEW

DESCRIPTION: The LMST operates in a worldwide military tactical environment and provides SHF SATCOM transmission of baseBand signals at the MARFOR / MEF headquarters (HQ) for termination at Major Subordinate Command (MSC) headquarters HQ, Defense Information Systems Network (DISN) Standard Tactical Entry Point (STEP) / teleport, naval vessels, and Service or Joint Task Force (JTF) HQs. The LMST provides mission essential voice, full motion video, and data services (NIPRNet, SIPRNet) to MAGTF commanders. It is packaged in two configurations consisting of 4 or 5 transit cases and one 2.5-meter antenna, making it easily loaded onto USMC organic motor transportation assets. Also found under the LMST program is the Phoenix, a mobile version of the LMST. It provides the MAGTF with similar capabilities as the LMST, but is vehicular mounted to allow for a more expeditious setup and displacement capability, however it requires a larger logistical footprint. The Phoenix is the primary satellite communications system for the Marine Expeditionary Unit (MEU).

CAPABILITY: Provides over the horizon (OTH), Beyond Line of Sight (BLOS), low cost, high Bandwidth, intra-MAGTF satellite communications.

REQUIREMENT: Operational & Organizational Concept (O&O) approved by MROC July 2005.

PROGRAMMATIC RISK AREAS / ISSUES

If the SATCOM Consolidation Strategy is not fully executed, the LMST and Phoenix terminals will require costly life-cycle extension upgrades in order to maintain aging equipment and address obsolescence issues which affect reliability, availability, and increased fleet sustainment costs.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capability:

- 6.1 - Transport Information

Mitigates the following gaps:

- 15-6.1-G1 Communicate information across the force throughout the OE
- 15-6.1.1-G2 Bandwidth to the node level

RELATIONSHIPS WITH OTHER PROGRAMS

- Provides data transport services for all MAGTF capabilities requiring voice, video and data communications.
- Closely aligned with the VSAT program (will be phased out and replaced by VSAT-L).

AAO

- AN / USC-65 (v)1 LMST Maxi: 13
- AN / USC-65 (v)2 LMST Mini: 37
- AN / TSC-156 Phoenix: 35

IOC / FOC

- IOC: Q3 FY03
- FOC: Q4 FY08. System is fully fielded and in sustainment.

SPECIFICATIONS

- Super High Frequency (SHF)
- 2.5 meter antenna
- C-Band, Ku-Band, Ka-Band, X-Band

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
AN / USC-65 (v)1 LMST Maxi	13	COLb				X COLe																															
AN / USC-65 (v)2 LMST Mini	37	COLb				X COLe																															
AN / TSC-156 Phoenix	35	COLb				X COLe																															

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
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Testing
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Status
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- TRb — Transition Begins
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JCIDS Milestones
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Marine Air Command and Control System Sustainment Portfolio (MACCS SP)

IMPACT STATEMENT: MACCS Sustainment Portfolio (SP) provides the Marine Corps aviation command and control (C2) suite of equipment supporting Aviation Combat Element (ACE) operations. The portfolio is comprised of systems organic to the Marine Air Control Group (MACG), supporting the execution of the six functions of Marine aviation.

PROGRAM OVERVIEW

DESCRIPTION: The Marine Air Command and Control System (MACCS) currently provides situational display, information management, sensor and data link interface for planning & execution of air command and control (C2) mission functions within the MAGTF. MACCS sustainment includes joint mandates, operating force requirements, and replacement of obsolete equipment to maintain the MACCS until Full Operational Capability (FOC) of Common Aviation Command and Control System (CAC2S).

CAPABILITY: Maintains the legacy aviation C2 systems in a ready, relevant, and capable state for the war fighter until they are retired upon the fielding of CAC2S.

REQUIREMENT:

- Operational Requirements Document (ORD) for the Direct Air Support Central (DASC) No. CCC 35.3.2 w/Ch. 1 dtd 18 Mar 1994
- ORD for Tactical Air Command Center (TACC) no. CCC 256.1 dtd 14 Mar 1994
- Required Operational Capability (ROC) No. CCC 1.28C for the Tactical Air Operations Center (TAOC) Ch. 1 dtd 05 Nov 93
- ORD no. CCC 15, W/Ch. 2 dtd 16 Oct 2008; W/Ch. 3, dtd 13 Feb 2009
- Mission Needs Statement (MNS) CCC11.10 for AN / TYQ-87(V)2 Sector Anti-Air Warfare Facility (SAAWF) dtd 8 Mar 1993

PROGRAMMATIC RISK AREAS / ISSUES

N / A

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.2 - Achieve Situational Awareness
- 5.3 - Conduct Planning
- 5.4 - Establish Organizational Structures
- 5.5 - Direct Execution
- 5.6 - Disseminate Information
- 6.1 - Transport Information End-to-End
- 6.3 - Optimize Networks
- 6.4 - Provide Information Assurance

Mitigates the following gaps: N / A

- CAC2S is the planned replacement system for the major programs in the portfolio. The system is performing upgrades and technical refreshes to extend service life. These systems must be sustained until replaced by CAC2S. The DASC (AS) system will not be replaced by CAC2S.

RELATIONSHIPS WITH OTHER PROGRAMS

CAC2S is the replacement for MACCS SP. Composite Tracking Network (CTN), AN / TPS-59 (V3), AN / TPS-63, and AN / TPS-80 Ground / Air Target Oriented Radar (G / ATOR) all feed information to components of MACCS.

AAO

- A0021 AN / TYQ-101,CDLS: 9
- A0025 AN / MSQ-124, ADCP: 14
- A0305 AN / TSQ-269 MTAOM: 10
- A2390 AN / TYQ-87(V)1 SAAWF: 10
- A2525 AN / TYQ-23(V)4 TAOM: 17

SPECIFICATIONS

N / A

IOC / FOC

- IOC: All components are past IOC.
- FOC: All components have been fully fielded and are in sustainment.
- AN / TYQ-101A IOC: Q1FY04
- AN / TYQ-101A FOC: Q2FY04
- AN / MSQ-124 IOC: Q1FY99
- AN / MSQ-124 FOC: Q1FY00
- AN / TSQ-269 IOC: Q1 FY12
- AN / TSQ-269 FOC: TBD
- AN / TYQ-87(V)1 IOC: Q3 FY06
- AN / TYQ-87(V)1 FOC: Q4 FY08
- AN / TYQ-23(V)4 IOC: Q1 FY05
- AN / TYQ-23(V)4 FOC: Q4 FY05
- AN / MRQ-12(V)4 CIS conversion to AN /MRQ-13(V)1 CS, start FY12, finish in FY13.

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
A00217 AN / TYQ-101 CDLS	9																				X															
A00257 AN / MSQ-124 ADCP	14																				X															
A0305 AN / TSQ-269 MTAOM	10																				X															
A2390 AN / TYQ-87 (V)1 SAAWF	10																				X															
A2525 AN / TYQ-23 (V)4 TAOM	17																				X															

NOTES:

CIS replaced by TAMCN A0032, AN/MRQ-13(V)1 Communication Suite (CS) as part of CAC2S.

KEY/LEGEND

Production
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MAGTF Command and Control Systems and Applications (MC2SA)

IMPACT STATEMENT: Provides the MAGTF the suite of software and applications used for sharing and understanding the Common Operational Picture (COP) and Common Tactical Picture (CTP); and is the mechanism for transitioning the Marine Corps to a service based architecture that supports joint warfighting capabilities.

PROGRAM OVERVIEW

DESCRIPTION: MAGTF C2 Systems and Applications (MC2SA) provides the common, modular and scalable C2 software for all elements and echelons of the MAGTF and is the software baseline for MAGTF C2. This includes the development, fielding, sustainment, and evolutionary upgrades to the Joint Tactical Common Operating Picture Workstation (JTCW) as well as transitioning C2 systems into "service" oriented environment. The end state is a "born joint", common, scalable, modular capability, seamlessly employable on the land and at sea, that enhances the lethality and effectiveness of the MAGTF across the range of military operations through better decision making, collaboration and shared understanding.

CAPABILITY: MC2SA provides interoperable, common, modular and scalable C2 software for all elements and echelons of the MAGTF.

REQUIREMENT:

- Tactical Service Oriented Architecture (TSOA) Information Systems Initial Capabilities Document (IS-ICD) (currently in development)
- JTCW Letters of Clarification from 2005 through 2012.
- Combat Operations Center (COC) Operational Requirements Document (ORD) Ch 7 dtd 2005

PROGRAMMATIC RISK AREAS / ISSUES

- All military services are transitioning to a structured data/service based architecture. If the USMC does not continue to invest in transitioning MAGTF C2 core software, it risks the loss of interoperability within the joint environment.
- Not investing in TSOA development means the loss of:
  - C2 information interoperability among disparate, stove-piped systems
  - Elevation of local application development as MAGTF-wide solution
  - Reduction of software redundancy
  - Implementation of repeatable processes for developing and managing software (cost avoidance)

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.2 - Achieve Situational Awareness
- 6.4 - Provide Information Assurance

Mitigates the following gaps:

- 15-5.2.1-G1 Common tactical picture
- 15-5.2.2-G1 Mission partner tactical situational awareness
- 15-5.2.1-G2 Information sharing with coalitioN / mission partners
- 15-5.2-G6 Joint, interagency, intergovernmental, multinational (JIIM) understanding of information

RELATIONSHIPS WITH OTHER PROGRAMS

- The COC currently employs JTCW and will use the COC software package 4.0.X.X provided by TSOA for the sharing of C2 information across multiple systems.
- JTCW provides the viewing of the Common Operational Picture (COP) from GCCS-TCO.
- C2PC, the core software in JTCW, is used across DoD in various programs to manage COP data.
- PM Intel's Topographic Production Capability (TPC) provides map services for TSOA.
- TSOA will support information interoperability with Navy Consolidated Afloat Networks and Enterprise Services (CANES) and Joint C2 (JC2) family of programs.

AAO

N / A

IOC / FOC

- IOC: Complete for JTCW
- FOC: Complete / in sustainment for JTCW

SPECIFICATIONS

The MC2SA suite of software and applications includes:

- Joint Tactical Common Operating Picture Workstation (JTCW)
- Tactical Service Oriented Architecture (TSOA)

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
JTCW V 2.0	-	P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb																									
JTCW Application (service-based)	-													P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb	
TSOA (CoC C2 SW Build)	-	P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb		P TRe	D	P TRb	
MCSRC	-			F																																	

NOTES:

- JTCW will transition to Windows 7 and become the MAGTF C2 COP client.
- JTCW Application represents the family of applications JTCW will become to provide C2 functionality.
- Marine Corps Software Resource Center (MCSRC) (a.k.a. app store) will provide enterprise applications to the operating forces. FOC is depicted in FY14 as that is when the site will be established (application development will continue).

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Marine Corps Common Hardware Suite (MCHS)

IMPACT STATEMENT: The single centralized procurement authority for Marine Corps Non-NGEN / NGEN Computing Equipment requirements, and maintains a secure, trusted, controlled configuration baseline for all Marine Corps IT hardware.

PROGRAM OVERVIEW

DESCRIPTION: Marine Corps Common Hardware (MCHS) is the single centralized procurement authority for Marine Corps computing equipment requirements. MCHS maintains a secure, trusted, controlled configuration baseline for all Marine Corps IT hardware. Specific activities include: Provide a common process for receipt, inventory, imaging, kitting and shipping (RIIKS) of IT hardware to MFE / MFA, MFK and OPFORs (shipped in a standard configuration ready to use); provide a uniform Product catalog and supporting contract vehicles for all Marine Corps customers; provide a common logistics support mechanism across the Marine Corps to include warranty support; provide refresh of Principle End Items (PEI), IT hardware for deployable forces not covered under the Next Generation Enterprise Network (NGEN) or Programs of Record (POR).

CAPABILITY: The goal of the program is to enhance Marine Corps IT system interoperability and lower the total cost of ownership through centralized procurement of COTS IT hardware; enhanced configuration management; and delivery of worldwide integrated logistics support for all fielded MCHS hardware.

REQUIRMENT: MARADMIN 363 / 12, Equipment Accountability and Visibility: Class VII Principle End Item Management.

PROGRAMMATIC RISK AREAS / ISSUES

Maintaining RIIKS process and subsequent logistics support for all fielded hardware purchased through MCHS.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capability:

- 6.2 - Provide enterprise services

Mitigates the following gaps: N / A

RELATIONSHIPS WITH OTHER PROGRAMS

MCHS supports all programs in order to meet their IT hardware requirements.

AAO

16 Table of Authorized Materiel Control Numbers (TAMCN) for IT hardware.

IOC / FOC

N / A

SPECIFICATIONS

MCHS supports multiple IT specifications for each of the supported IT TAMCNs (e.g. laptops, desktops, servers, Network Attached Storage (NAS), Storage Attached Network (SAN), tablets, etc.) in order to meet the needs of the Marine Corps. MCHS is developing specifications to support routers and switches.

This program has no associated milestone table.

Networking On-the-Move (NOTM)

IMPACT STATEMENT: Enables the commander to better exercise Command and Control (C2) in a dynamic and rapidly changing environment by extending network connectivity through an on-the-move (OTM) and Beyond Line of Sight (BLOS), self-forming, self-healing, mobile ad-hoc tactical communications network capability. NOTM will provide transmission paths that enable mobile forces, across the MAGTF, to collaborate, access information, and exchange voice, video, and data information while OTM and at the halt (ATH). NOTM is an essential enabler for the middle-weight force.

PROGRAM OVERVIEW

DESCRIPTION: Networking On the Move (NOTM) will provide Marine Air-Ground Task Force (MAGTF) the communications and networking capabilities on-the-move (OTM), over-the horizon (OTH), and beyond line-of-sight (BLOS). It will support integrated Network Operations (NETOPS) and the beginning capability for self-forming / self-healing ad hoc mobile networking. NOTM will enable mobile forces to collaborate and access information resources for the exchange of voice, data, and video information. This capability will allow tactical forces to maintain situational awareness by extending data network connectivity while OTM. In addition, NOTM will provide crucial network management capabilities to simplify the planning, configuring, and monitoring of the MAGTF networks, waveforms, and spectrum.

CAPABILITY: BLOS, LOS, OTM, and ATH communications transport for Marines at the forward edge in order to gain situational awareness and communicate with Combat Operations Center (COC) applications.

REQUIREMENT:

- MAGTF C2 Initial Capabilities Document (ICD)
- Universal Statement of Needs (USON) dtd 8 July 2011 (Increment 1)
- Letter of Clarification (LOC) for Inc 1 Initial Operational Capability (IOC) dtd 7 May 2012
- Increment 2 Capabilities Development Document (CDD) currently in staffing

PROGRAMMATIC RISK AREAS / ISSUES

Training currently conducted by contract support personnel until it can be incorporated into a formal training plan at Marine Corps Communications / Electronics School (MCCES).

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.2 - Achieve Situational Awareness
- 5.6 - Disseminate Information
- 6.1 - Transport Information
- 6.2 - Provide Enterprise Services
- 6.3 - Optimize Networks
- 6.4 - Provide Information Assurance
- 7.1 - Prevent Attack

Mitigates the following gaps:

- 5.2.1.3 - Disseminate Information
- 15-6.3.2-G1 - Inability to establish a wide Band data network between ship and shore
- 15-6.1.3.1-G1 - Network engineering and integration
- 15-6.3-G4 - Configuration management
- 15-5.2.1-G1 - Common tactical picture

RELATIONSHIPS WITH OTHER PROGRAMS

NOTM extends the organic C2 at-the-halt (ATH) network services via high Bandwidth LOS transmission systems to elements of the MAGTF while OTM. NOTM is an enabler to existing and future communication architecture and networks. NOTM interfaces with: Data Distribution System – Modular (DDS-M), tactical data radios, Very Small aperture terminals (VSAT) satellite systems, Combat Operations Center (COC) staff kits, and wireless and cabled interfaces to provide a full range of communication and network services.

AAO

- Point of Presence (POP):
  - Inc 1 AAO: 59
  - Inc 2 AAO:148
- Staff Vehicles:
  - Inc 1 AAO 118
  - Inc 2 AAO: 296
- Staff Vehicle Kits:
  - Inc 1 AAO: 236
  - Inc 2 AAO: 296

IOC / FOC

- Inc 1 phase 1 IOC: Q3 FY13
- Inc 1 phase 1 FOC: Q4 FY13
- Inc 1 phase 2 IOC: Q1 FY13
- Inc 1 phase 2 FOC: Q1 FY14
- Inc 2 IOC: Q4 FY19

SPECIFICATIONS

- Inc 1 phase 1: POP kit and Staff Vehicles threshold platform is the MATV.
- Inc 1 phase 2: POP kit threshold platforms are the AAV-P7, HMMWV (M1165), MATV. objective platforms are the LAV, ACV, MPC, MTVR and JLTV.
- Inc 1 phase 2: Staff vehicle kit threshold platforms are the AAV-C7, HMMWV (M1165 & M1123), & MATV. Objective platforms are MTVR, ACV, MPC, LAV, JLTV.
- Inc 2: POP kits and Staff Vehicles threshold vehicles are same as Inc 1.

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Inc 1 Phase 1 POP kits	16																																		
Inc 1 Phase 2 POP kits	43	F																																	
Inc 1 Phase 1 Staff Vehicles	32																																		
Inc 1 Phase 2 Staff Vehicles	86	F																																	
Inc 1 Phase 1 VSAT Modem Upgrade	2																																		
Inc1 Phase 2 VSAT Modem Upgrade	5	F																																	
Inc 2	148	B		D			I			C				F	F		F				I														

NOTES:

- Current Increment 1 funding facilitates sustainment of 43 of the 59 systems.
- Increment 1 will have Ka upgrades to leverage military bandwidth.
- Increment 2 which will level out the MEF's with this capability and bring the total AAO from 59 to 148 is currently unfunded.

KEY/LEGEND

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- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
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Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Network Planning and Management (NPM)

IMPACT STATEMENT: Provides the MAGTF with standard spectrum and communications planning and management tools (Solar Winds, System Planning, Engineering and Evaluation Device (SPEED)) for pre-deployment, employment, and re-deployment. Selected by other services / agencies as the best tool for radio frequency (RF) link engineering, SPEED is being used widely by the Army, Air Force, and other Federal agencies.

PROGRAM OVERVIEW

DESCRIPTION: Network Planning and Management (NPM) is a portfolio of communications planning and network management (NM) applications. NPM consists of the USMC's System Planning, Engineering and Evaluation Device (SPEED) software application and a combination of network management applications. The SPEED software provides communications planning, spectrum management, and RF propagation for Line of Sight (LOS) system links and radio nets. SPEED consists of 14 modules each used for a different aspect of communications planning.

CAPABILITY: Provide a portfolio of communications planning and network management software applications which both meets the needs of the MAGTF and maintains relevancy with equipment inventory.

REQUIREMENT:

- Required Operational Capability (ROC) 05 March 1990, updated 6 July 1999. CDTS ID: 93347DF. MCCDC No.: CCC 254.3 Communications SPEED.
- JIEDDO Requirements Clarification from MCCDC 20 June 2006. Enhanced interference and de-confliction, include Jammers, radars, and sensors, move towards a 3D mapping engine, and development of a convoy planning tool.

PROGRAMMATIC RISK AREAS / ISSUES

- Training provided by Marine Corps Tactical Systems Support Activity (MCTSSA) to all MEFs, periodically each year, or by special request.
- Expansion of NPM to include newest technologies of communications planning and monitoring tools (Solar Winds, data network planning, etc.).

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capability:

- 6.4 - Optimize Networks

Mitigates the following gaps:

- 15-6.1.3-G1 Network engineering and integration
- 15-4.1.1-G2 Plan and manage distribution networks
- 15-6.3-G4 Configuration Management

RELATIONSHIPS WITH OTHER PROGRAMS

NPM supports planning for all tactical radio systems, to include all within the Tactical Communications Modernization (TCM) portfolio of systems.

AAO

N / A

IOC / FOC

N / A

SPECIFICATIONS

N / A

This program has no associated milestone table.

Systems Engineering, Integration, & Coordination (SEIC)

IMPACT STATEMENT: SEIC supports intra-service end-to-end interoperability and provides / maintains a critical systems engineering capability that produces decision support tools central to identifying cross programmatic dependencies, orchestrating delivery of MAGTF C2 systems capabilities, and supporting strategic systems modernization.

PROGRAM OVERVIEW

DESCRIPTION: SEIC is Marine Corps Systems Command (MCSC) Chief Engineer's systems engineering and integration program. SEIC provides the decision support tools and engineering analysis resources needed to assess, identify and resolve MAGTF inter-systems' system of systems (SoS) issues and challenges. SEIC supports DC CD&I, DC PP&O, DC A, DC I&L, DC M&RA, HQMC C4, and HQMC INT in the analysis, evaluation, and assessment of MAGTF Systems and system-of-systems requirements. SEIC centralized management of C4ISR programs allows the implementation of systems engineering certification process in support of milestone decision approval; a requirements and functional analysis process enabling system of systems engineering and an overarching C4ISR systems architecture, and a product realization process to support budget decisions. SEIC engineering conducts functional analyses for emergent SoS challenges and ensures seamless integration and maximum interoperability of materiel across Marine, Navy, Joint, and DoD programs consistent with the Commandant's Vision and Strategy 2025.

CAPABILITY: Provide personnel support to facilitate: enterprise level systems engineering, configuration management; system-to-function mapping; and integrated systems scheduling.

REQUIREMENT: While there is no specific requirements documentation that directs the establishment of SEIC, the following provides a list of policies which SEIC supports:

- Department of Defense Instruction (DODI) 5000.02
- Secretary of the Navy Instruction (SEC
- Marine Corps Order (MCO) 3093.3

PROGRAMMATIC RISK AREAS / ISSUES

- Limited system of systems perspective which equates to potentially increased systems-level integration risks.
- Without full engineering certification, systems may be fielded that are not interoperable with legacy MAGTF C2 systems.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 4.6 - Conduct Expeditionary Engineering
- 9.3 - Information Management
- 9.4 - Acquisition & Technology

Mitigates the following gaps:

- 15-9.3.1-G1 Enterprise Architecture
- 15-9.4-G1 Rapid Acquisition

RELATIONSHIPS WITH OTHER PROGRAMS

Provides disciplined system of systems engineering, analysis, and integration support activities for 190 MAGTF Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems and platforms.

AAO

N / A. This is a level of effort program.

IOC / FOC

N / A

SPECIFICATIONS

N / A

This program has no associated milestone table.

Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T)

IMPACT STATEMENT: Key component of the Joint EHF MILSATCOM Ground Segment and a strategic asset employed by all services that provides the MAGTF with its only post-nuclear satellite communications (SATCOM) capability, while delivering protected SATCOM with Low Probability of Intercept (LPI) and Low Probability of Detection (LPD).

PROGRAM OVERVIEW

DESCRIPTION: The SMART-T is a High Mobility Multipurpose Wheeled Vehicle (HMMWV)-mounted, Extremely High Frequency (EHF) Satellite Communications (SATCOM) terminal capable of operating over MILSTAR, Advanced EHF (AEHF) and other EHF satellite constellations. It is a key component of the Joint EHF MILSATCOM Ground Segment and a strategic asset employed by all Services. The SMART-T provides multi-channel, near-global extended range connectivity for core MAGTF C2 links with anti-jam, anti-scintillation, and low-probability of intercept / detection (LPI / LPD) characteristics. The SMART-T itself is High-Altitude Electro-Magnetic Pulse (HEMP)-hardened and utilizes a "protected" waveform designed to operate continuously and autonomously in a post-nuclear environment.

CAPABILITY: Advanced Extremely High Frequency (AEHF) upgrade kits will allow the fielded terminals to access the next generation of protected SATCOM payloads and receive both Extended Data Rate (XDR) (up to 8 Mbps) on the AEHF SATCOM constellation and enhanced Transmission Security (TRANSEC).

REQUIREMENT:

- Operational and Organizational Concept (O&O) dtd 11 November 1998
- Letter of Clarification (LOC) to the O&O dtd 5 October 2011

PROGRAMMATIC RISK AREAS / ISSUES

N / A

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capability:

- 6.1 - Transport Information

Mitigates the following gaps:

- 15-6.1-G1 Communicate information across the force throughout the OE
- 15-6.1.1-G2 Bandwidth to the node level

RELATIONSHIPS WITH OTHER PROGRAMS

- Provides data transport services for all MAGTF capabilities requiring voice, video and data communications.
- The terminals rely upon the MILSTAR, AEHF, Ultra High Frequency Follow-On (UFO), and other EHF satellite constellations.
- SMART-T Program Office maintains a working relationship with Marine Corps Systems Command (MCSC) for HMMWV requirements.

AAO

- AN / TSC-154 (EHF SMART-Ts): 42
- AN / PSQ-19 Network Planning Tools: 32

IOC / FOC

- IOC: Q3 FY02
- FOC: Q2 FY06

SPECIFICATIONS

- 75bps-2.4 kbps (Low Data Rate (LDR) Throughput)
- 4.8 kbps-2.2 Mbps (Medium Data Rate (MDR) Throughput)
- 4.5 ft Antenna
- 43.5-45.5 GHz EHF Uplink
- 20.2-21.2 GHz SHF Downlink
- TRANSEC Encryption / Decryption

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
AN / TSC-154 SMART-T	42					TRe 42																													
AN / PYQ-19 Network Planning Tool	32			TRe										R:32																					

NOTES:

- TRe = All legacy SMART-T (AN/TSC-154) terminals upgraded with the AEHF components (AN/TSC-154A). AAO will remain at 42.
- TRe = All legacy Planning Tools (AN/PSQ-17) replaced by the classified planning Tool (AN/PYQ-19). AAO will remain at 32.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Theater Battle Management Core System (TBMCS)

IMPACT STATEMENT: TBMCS is the Joint mandated air war planning tool, supporting the six functions of Marine Aviation and is the only air battle planning and execution tool within the Aviation Combat Element (ACE) for managing the Air Tasking Order (ATO).

PROGRAM OVERVIEW

DESCRIPTION: Theater Battle Management Core System (TBMCS) represents Marine Corps participation in the Joint Chiefs of Staff mandated air war planning tool for the generation, dissemination and execution of the Air Tasking Order (ATO) and the Airspace Coordination Order (ACO). TBMCS provides additional tools to conduct: Situational Awareness and Assessment; Airspace Deconfliction; Execution Management and Re-planning; Close Air Support; Targeting / Weaponeering; and Time Critical Targeting. Active participation by the Marine Corps in development and sustainment is required to ensure USMC requirements are met and properly implemented, and to keep Marine aviation relevant and interoperable in a joint theater of operations.

CAPABILITY: TBMCS is an integrated capability supporting Joint Force Air Component Commander (JFACC) and ACE air operations and planning; and providing air input to the common tactical picture (CTP) and common operational picture (COP). It is located at the Tactical Air Command Center (TACC) with remotes located throughout the MAGTF.

REQUIREMENT:

- Operational Requirements Document (ORD) for Theater Battle Management Core System II (TBMCS II) dtd Feb 2002
- TBMCS Concept of Employment (CoE) dated June 2013

PROGRAMMATIC RISK AREAS / ISSUES

TBMCS system is in sustainment and is planned to be replaced by a follow-on air battle planning and execution system. TBMCS is performing Post Deployment Software Support (PDSS) activities and technical refreshes to extend system service life.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.2 - Achieve Situational Awareness
- 5.3 - Conduct Planning
- 5.4 - Establish Organizational Structures
- 5.5 - Direct Execution
- 5.6 - Disseminate Information

Mitigates the following gaps:

- 15-5.1-G1 Plan and Direct Logistics Operations
- 15-5.2-G1 Maintain Situational Awareness

RELATIONSHIPS WITH OTHER PROGRAMS

TBMCS furnishes data input information for insertion into common aviation command and control system (CAC2S), legacy Marine Air Command and Control System (MACCS), Marine Air Traffic Control Automatic Landing System (MATCALS), and Air Traffic Marine Navigation, Integration, and Coordination System (ATNAVICS) in order to provide Marine Corps joint inter / intra-operability with other services aviation C2 systems. TBMCS will remain in service until replaced by Command & Control Air Operations Suite (C2AOS) and Command & Control Information Services (C2IS).

AAO

12

IOC / FOC

- IOC: FY05
- VFOC: FY06

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TBMCS V1.1.3	12																												X							

NOTES:

The program termination date was moved to FY20.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
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- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
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- I — IOT&E: Initial Operational Test and Evaluation
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- M — MOT&E: Multi-Service Operational Test and Evaluation
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Status
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- TRe — Transition Ends
- COLb — Collapse Begins
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- EoL — End of Life

JCIDS Milestones
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Tactical Communications Modernization (TCM)

IMPACT STATEMENT: Provides the primary means of voice and data networked communications for mounted and dismounted forces. TCM provides push-to-talk and network enabled radios that operate across multiple frequency bands and modes of operation. TCM enables C2 and SA at all echelons and elements of the MAGTF.

PROGRAM OVERVIEW

DESCRIPTION: TCM was initially established to procure interim radio systems to bridge the gap between legacy systems and Joint Tactical Radio System (JTRS) hardware deliveries. The program schedule and budget profile for TCM procures multiple families of radio systems to support the primary operational voice and data communications requirements for mounted and dismounted forces. TCM procurements enable a joint networking capability and support National Security Agency (NSA) Communications Security (COMSEC) Modernization requirements.

CAPABILITY: Provides high-capacity line of sight (LOS), BLOS secure voice, and data while operating in frequency Bands from 2Mhz to 2Ghz. Provides wideBand data network connectivity across the radio frequency (RF) spectrum at the platoon and above echelon. Strives to enable net centricity and push data down to the squad echelon.

REQUIREMENT: JORD for MBR Nov 98 / CDD LOC for Capabilities of the MBR System Sep 07 / LOC of Capability Required for MBR Aug 08 / MCCDC LOC: Capability Required for MBR Nov 08 / HQMC C4 Letter for Expedited Fielding of the AN / PRC-117G to I MEF FWD ISO OEF Feb 10 / USON for MBR Manpack and Vehicular Variants of the AN / PRC-117G Jul 10 / MCCDC LOC on USON for AN / PRC-117G MBR Oct 10 / LOC on Vehicular Variant MBR Performance Parameters Jan 11 / LOC for T&E of MBR II Capabilities Aug 11 / SON MBR II, Manpack and Vehicular Variants Nov 11.

PROGRAMMATIC RISK AREAS / ISSUES

- WideBand Tactical Hand Held Radio (THHR) – The WideBand THHR initiative will extend networked data connectivity to the squad leader echelon. This initiative is at risk due to other funding priorities.
- Mobile User Objective System (MUOS) – Introduction of a completely new MUOS capable radio has the potential to increase training requirements & maintenance costs.
- Issues associated with DOTMLPF-C – C2 doctrinal publications and policy need to be updated to account for this push towards net-centric tactical radio communications. Specific concerns include capturing which doctrinal voice radio nets may transition to being primarily data.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 5.2 - Achieve Situational Awareness
- 5.3 - Conduct Planning
- 5.5 - Direct Execution
- 5.6 - Disseminate Information
- 6.1 - Transport Information
- 8.1 - Communicate

Mitigates the following gaps:

- Situational Awareness (C.03-03)
- Information Sharing with Mission Partners (C.06-24)
- Collaborative Planning (C.05-10)
- Systems Throughput Capacity (C.21-01) / Target Validation (C.06-55)

RELATIONSHIPS WITH OTHER PROGRAMS

- TCM radios provide the transmission path for information generated and received by several other systems such as AFATDS, JBC-P, TLDHS, and the TACP suite. This list is not all-inclusive.
- TCM radios are also included in a majority of light ground tactical vehicles as the primary means to support voice command and control and convoy control during mobile operations across all elements of the MAGTF.
- TCM is complementary to NOTM and will utilize terrestrial WideBand Networking radios to provide a terrestrial link to the NOTM architecture.
- TCM radios will fully utilize capabilities provided by Joint Tactical Waveforms such as Soldier Radio Waveform (SRW), WideBand Networking Waveform (WNW), and MUOS.

AAO

- Varies by "A" TAMCN.
- See Tactical Radio AAO Baseline spreadsheet dtd 31 Jan 2011.

IOC / FOC

- Varies by "A" TAMCN.
- See Tactical Radio Roadmap and POM-13 Acquisition schedule for near-term milestones.

SPECIFICATIONS

- Varies by "A" TAMCN
- Handheld radios – MulitBand (VHF, SINCGARS, UHF LOS)
- Manpack radios – HF, SINCGARS, & MultiBand (VHF, UHF LOS & SATCOM)
- Vehicular radio variants of manpacks and handhelds (same capabilities as described above).
- Mobile Radios (MRC-145s and MRC-148s) – Currently provide high power SINCGARS retransmission and HF.

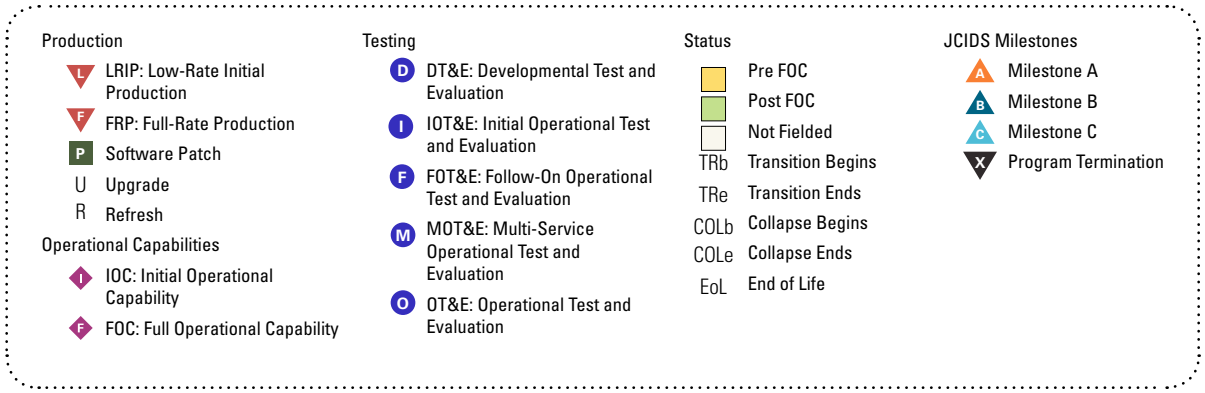
SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
AN / PRC-150	5,724	**TRb** Crypto Mod (RadBn) 102 of current AAO				**TRe**																							X							
AN / MRC-148	1,365	**TRb** Crypto Mod (RadBn) 27 of current AAO				**TRe**																							X							
AN / VRC-104	767																												X							
AN / TRC-209	801	**TRb** Crypto Mod (RadBn) 9 of current AAO				**TRe**																							X							
AN / PRC-119F	4,817					**COLb** PRC-152/ PRC-117F								FY17 TE Review 0			X	**COLe** PRC-152/PRC-117F 0																			
AN / MRC 145	2,284	**TRb** AN / MRC-145B				**TRe** AN / MRC-145B 817								FY17 TE Review 817 MRC-145B																							
JTRS GMR AN / VRC-107	0																	**CANCELLED**																			
THHR (U) AN / PRC-152 (V)1	7,537	9,537				11,537				13,537																											
THHR (U) AN / PRC-148 (V)1	7,162	**COLb** PRC-152 5,162				3,162				1,162							X	**COLb** PRC-152, 0																			
THHR (M) AN / PRC-148 (V)1 / (V)3	5,746	5,746 V(1)+V(3) Combined												(v)1 **TRb** Solution TBD					(v)1 **TRe** Solution TBD																			
DVA AN / VRC 111	273																X																			
DVA AN / VRC-110 (20W)	0																	**ARCHIVED**																			

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
DVA AN / VRC-110 (50W)	10,231				9,367				9,287																												
SVA AN / VRC-112	4,260				4,062				4,035																												
SVA AN / VRC-113	11,441				10,917																																
MBR-M AN / PRC-117F*	9,208				8,647																																
MBR-M AN / PRC-117G*	1,300																																				
MBR-B AN / VRC-103*	3,110								2,873																												
MBR-V AN / VRC-114(V)1*	287																																				
IISR AN / PRC-153	52,008								46,447																												
EPLRS AN / VSQ 2D (V)1	3,350												X																								
Remote RF-5800R-RC111	3,428																																				
Remote RF-7800R RC111	2,074																																				

NOTES:

AAOs reduced due to force structure reductions.

KEY/LEGEND



Transition Switch Module (TSM)

IMPACT STATEMENT: TSM is the program of record that provides basic telephone service to all levels of the MAGTF and ties higher level multiplexing capabilities into the regimental level and below. It's modular configuration allows for rapid employment and dissemination of Defense Switch Network (DSN) services and allows for a Plain Old Telephone System (POTS) to Internet Protocol (IP) conversion. TSM provides voice services to the warfighter.

PROGRAM OVERVIEW

DESCRIPTION: The Transition Switch Module (TSM) is the primary Marine Corps system to provide Plain Old Telephone (POTS) and Voice over Internet Protocol (VoIP) telephone services to the Battalion / Squadron level. It also provides a limited multiplexing capability which allows for greater efficiency for non-secure and secure internet protocol routing network (NIPRNET / SIPRNET) circuits Bandwidth management, and supports USMC C2 joint interoperability and other coalition mission partners. TSM is transit case based, providing a modular, scalable and flexible capability to the warfighter.

CAPABILITY: Provide the MAGTF with telephone (VoIP and POTS) services. Additionally provide a multiplexing capability which bundles voice and data circuits, generating greater Bandwidth efficiency, to tie into higher, adjacent or subordinate commands.

REQUIREMENT: Capabilities Production Document (CPD) dtd 17 Sept 2007

- Letter of Clarification (LOC) for VoIP requirement dtd 1 Sept 2011
- LOC for Fiber Optic Cable requirement dtd 1 Sept 2011

PROGRAMMATIC RISK AREAS / ISSUES

Transition from Time Division Multiplexing (TDM) to Everything Over IP (EoIP) will require an IP-based solution which TSM does not currently have.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 6.1 - Transport Information
- 6.3 - Optimize Networks

Mitigates the following gap:

- 15-6.3-G5 - Situational Awareness

RELATIONSHIPS WITH OTHER PROGRAMS

- TSM operates in conjunction with DDS-M, DTC-R, and JECCS.
- Provides telephone services for programs such as CAC2S, COC and NOTM.

AAO

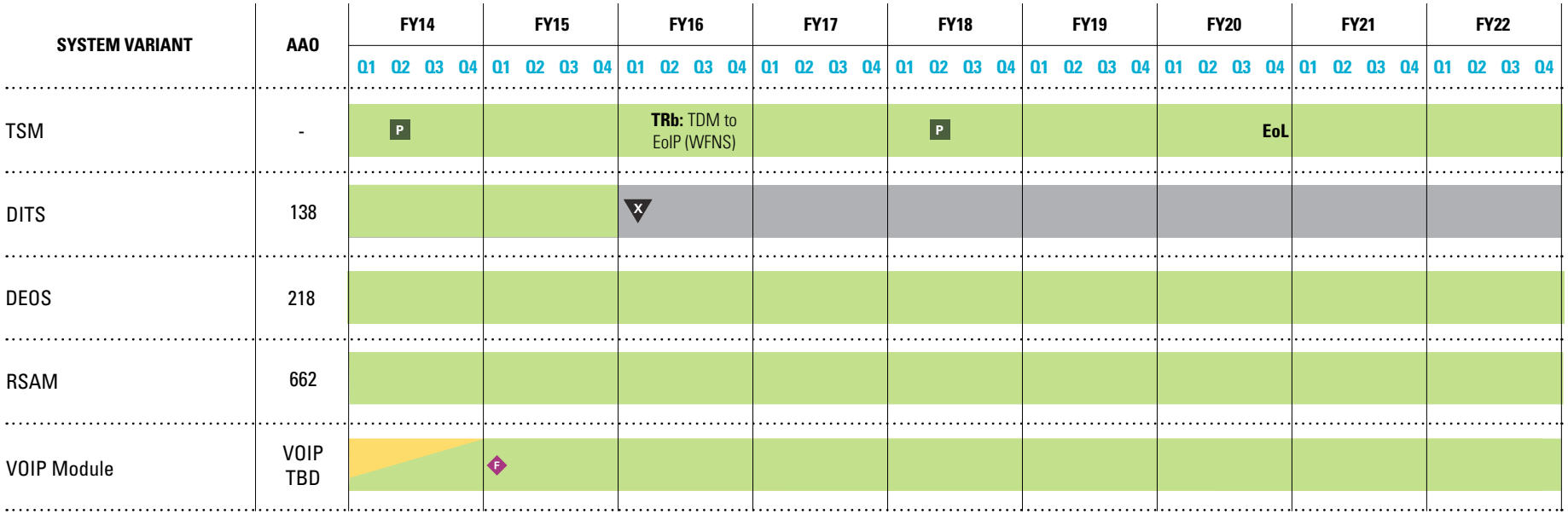
- Deployable Integrated Transport Suite (DITS): 138
- Deployable End Office Suite (DEOS): 218
- Remote Subscriber Access Module (RSAM): 662

IOC / FOC

All components have reached FOC (4th Qtr 2007) and are in sustainment.

SPECIFICATIONS

N / A



NOTES:

- TSM will transition from Time Division Multiplexing (removal of DITS) to an Everything over IP environment in accordance with the Warfighter Network Services (WFNS) Strategy in FY16.
- VoIP - is derived from a Universal Needs Statement (UNS) that was transitioned into the TSM program.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Terrestrial WideBand Transmission Systems (TWTS)

IMPACT STATEMENT: The TWTS portfolio of systems provides the terrestrial communications infrastructure that supports inter/intra nodal connectivity (i.e. digital backbone) between the MEF and higher headquarters; the MEF Command Element (CE) and Major Subordinate Commands (MSC); and the MSC's CE and their subordinate elements within the MAGTF.

PROGRAM OVERVIEW

DESCRIPTION: Terrestrial WideBand Transmission Systems (TWTS) portfolio is a capabilities portfolio of terrestrial based wideBand transmission systems (formerly known as TRC-170 MCPC). The portfolio includes Beyond Line Of Sight (BLOS) system (i.e. AN / TRC-170V3/V5) and Line Of Sight (LOS) systems (i.e. AN / MRC-142B/C, Troposcatter Support Radio (TSSR), and Wireless Point- to-Point- Link version D (WPPL-D). The AN / TRC-170 is a transportable BLOS, terrestrial, self-enclosed troposcatter terminal (multichannel) capable of transmitting and receiving digital data over varying distances up to 100 miles. The AN / MRC-142 B/C consists of the AN / MRC-142B (ship to shore) and C variants to provide LOS, two-way, secure voice and data communications up to 35 miles. The WPPL-D is an integrated communications system consisting of Commercial Off-the-Shelf (COTS) radios, antennas, and IP networking equipment that provides NIPR/SIPRNet data connectivity, voice, and video services. The TSSR is a multi-channel LOS wireless cable replacement communication system. The Tactical Elevated Antenna Mast System (TEAMS) is a 34-meter telescopic mast system which extends support to various organic LOS by increasing operational reach.

CAPABILITY: BLOS and LOS wideBand terrestrial communications which are easily deployable with minimal equipment and personnel footprints.

REQUIREMENT:

- Digital WideBand Terrestrial System Required Operational Capability (DWTS ROC) dtd Sep 1988
- DTWS ROC Change 5 dtd 1999 and Urgent Universal Needs Statement (UUNS) dtd Dec 2003
- UUNS Very Small Aperture Terminal (VSAT) dtd Jul 2005
- UUNS dtd Sep 2005

PROGRAMMATIC RISK AREAS / ISSUES

An Analysis of Alternatives (AoA) is being conducted in order to address the potential technological obsolescence of the portfolio's systems. The outcome of the AoA will potentially impact refresh and sustainment of the portfolio's systems.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 6.1 - Transport Information
- 6.2 - Provide Enterprise Services (provides access only)
- 6.3 - Optimize Networks
- 6.4 - Provide Information Assurance

Mitigates the following gaps:

- 15-6.2-G5
- 15-6.2.1.2-G1
- 15-6.2.2-G2
- 15-6.2-G2
- 15-6.2-G3
- 15-6.2-G3

RELATIONSHIPS WITH OTHER PROGRAMS

The following programs are dependent upon the capabilities the portfolio's systems provide:

- Transition Switch Module (TSM)
- Data Distribution System-Modular (DDS-M)
- Digital Technical Control (DTC)
- Combat Operations Center (COC)

AAO

- TRC-170: 158
- MRC-142 B: 18
- MRC-142 C: 420
- WPPL D: 284
- TEAMS: 641
- TSSR: 249

IOC / FOC

All systems are in sustainment.

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TWTS	TBD	AoA Review								B												C			O	L			F, I							
AN / MRC-142B	18													X																						
AN / MRC-142C	420																													X						
AN / TRC-170A	158																													X						
WPPL-D	284																													X						
TEAMS	641																																	X		
TSSR	249				X																															

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
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- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Very Small Aperture Terminal (VSAT)

IMPACT STATEMENT: The primary wideband satellite communication (SATCOM) terminal for the MAGTF, enabling distributed MAGTF operations through transmission of critical command and control information. The family of systems (FoS) provides integrated, tri-band, Commercial Off-the-Shelf (COTS) SATCOM ground terminals that can be used as either a hub or spoke in a SATCOM network.

PROGRAM OVERVIEW

DESCRIPTION: The VSAT is a comprehensive, centralized, and sustainable solution designed to address present and future warfighting capability requirements using military and commercial satellite communication systems. The VSAT was designed and built to provide the Marine Corps with a transmission capability that will accommodate the ever increasing requirements for Beyond Line of Sight (BLOS) communications throughput for data, voice, and video to and from command posts at all echelons. VSAT systems' modular architecture supports technology insertion through scalable and flexible SATCOM technologies. The primary mission of the VSAT is to support MAGTF operations by providing an integrated, secure, near real-time (NRT), reliable, and long-range communications capability that complements existing military networks and is capable of supporting large numbers of geographically dispersed users. The SATCOM Consolidation Strategy will be implemented through the VSAT FoS which includes the sun-downing of the LMST program.

CAPABILITY: Provides over the horizon (OTH), Beyond Line of Sight (BLOS), low cost, high Bandwidth, intra-MAGTF satellite communications.

REQUIREMENT:

- Originated in 2004 in several U-UNS
- Letter of Clarification signed 8 April 2011

PROGRAMMATIC RISK AREAS / ISSUES

If the SATCOM Consolidation Strategy is not fully executed, the LMST and Phoenix terminals will require costly life-cycle extension upgrades in order to maintain aging equipment and address obsolescence issues which affect reliability, availability, and increased fleet sustainment costs.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capability:

- 6.1 - Transport Information

Mitigates the following gaps:

- 15-6.1-G1 Communicate information across the force throughout the OE
- 15-6.1.1-G2 Bandwidth to the node level

RELATIONSHIPS WITH OTHER PROGRAMS

- VSAT-L is interoperable on the radio frequency (RF) side with all DOD MIL-STD-188-165 satellite terminals on Ka-Band and Ku-Band.
- Closely aligned with the sun-downing of the LMST program.
- Provides data transport services for all MAGTF capabilities requiring voice, video and data communications.
- VSAT-L will be the replacement for LMST systems.
- VSAT-S & VSAT-M were formally known as the SWAN D V1 and SWAN D V2 systems.

AAO

- VSAT-S: 166
- VSAT-M: 61
- VSAT-L: 134

IOC / FOC

- IOC: VSAT-L Q2 FY12
- IOC: VSAT S/M Q4 FY13
- FOC: VSAT FoS Q2 FY15

SPECIFICATIONS

- VSAT-S
  - Linkway TDMA S2S Modem
  - 1.2M Antenna
  - Ku-Band (Ka-Band as an objective)
- VSAT-M
  - Linkway TDMA S2S Modem
  - 1.8M Antenna
  - Ku-Band (Ka-Band as an objective)
- VSAT-L
  - Linkway TDMA S2S Modem/EBEM FDMA Modem
  - Trailer-mounted 2.4M Antenna
  - Ku-Band and Ka-Band (X-Band as an objective)

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
VSAT-S	166		U																																	
VSAT-M	61		U																																	
VSAT-L	134		U				F																													

NOTES:

2nd Quarter FY14:

- Fielding of X-Band kits for VSAT-L terminals
- Fielding of Ka-Band kits for VSAT-M/S terminal
- Disposal of LMST/Phoenix terminals

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
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- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

APPENDIX B: CE PROGRAM STATUS CHARTS

This appendix contains individual Command Element "Enabling" PORs that have been identified by the CEAB OAGs that provide the MAGTF with "Enabling" capabilities. The quad chart and milestone snapshots below offer a preview of the data elements found within each POR status.

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Distributed Common Ground / Surface System - Marine Corps (DCGS-MC)

IMPACT STATEMENT: The Distributed Common Ground / Surface System-Marine Corps (DCGS-MC) migrates select USMC ISR processing, exploitation, analysis, and production capabilities into a single, integrated net-centric baseline consisting of functional capability sets that support the MAGTF by making organic and external ISR data more visible, accessible, and understandable. DCGS-MC will be located at garrison sites and deployable units.

PROGRAM OVERVIEW

DESCRIPTION: DCGS-MC is in compliance with the DoD DCGS Family of Systems concept as a service-level effort to migrate selected Marine Corps ISR processing and exploitation capabilities into a single, integrated, net-centric baseline. As the processing, exploitation, analysis, and production component of the Marine Corps ISR Enterprise, DCGS-MC will comprise functional capability sets that support Marine intelligence analysts across the MAGTF by making organic and external all-source ISR data more visible, accessible, and understandable.

CAPABILITY: Provide tactical decision-makers with timely and relevant knowledge of the battlespace by enabling select USMC ISR data to be processed, exploited, and disseminated in a net-centric enterprise environment.

REQUIREMENT:

- DCGS-MC Enterprise (Program of Record Increment 1) CDD dtd 29 April 2010
- DCGS MA ICD JROC Memo 001-03 dtd 6 Jan 03

PROGRAMMATIC RISK AREAS / ISSUES

Facilities: none.

Personnel: none.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

- Mitigates 15 gaps on the MAGTF Gap List, of which four are in the top ten
  - Primary Gap I.03-04-G1: Limited Ability to Identify Time Critical Information

RELATIONSHIPS WITH OTHER PROGRAMS

- DoD DCGS Enterprise
- Topographic Production Capability (TPC)
- Tactical Exploitation Group (TEG)
- Intelligence Analysis System

AAO

- A03797G PDEC: 6
- A03917G EDS: 25
- A08797G TEG-M: 4
- A08787GB TEG-EWS: 32
- A03837G TEG-RWS: 180
- A50347G TEG-RWS TNG: 31
- A03857G SEES: 15
- A05027G TGIL: 7
- A05037G DGIL-S : 21
- A05017G DGIL-W: 68
- A05047G DTAMS: 71
- A00597G DTAMS-L: 79
- A24767B GSS: 14
- A050367 DGIL-W TNG B: 28
- A50357G DGIL-W TNG A: 34
- A50377G DGIL-S TNG: 2
- TPC Set: 3

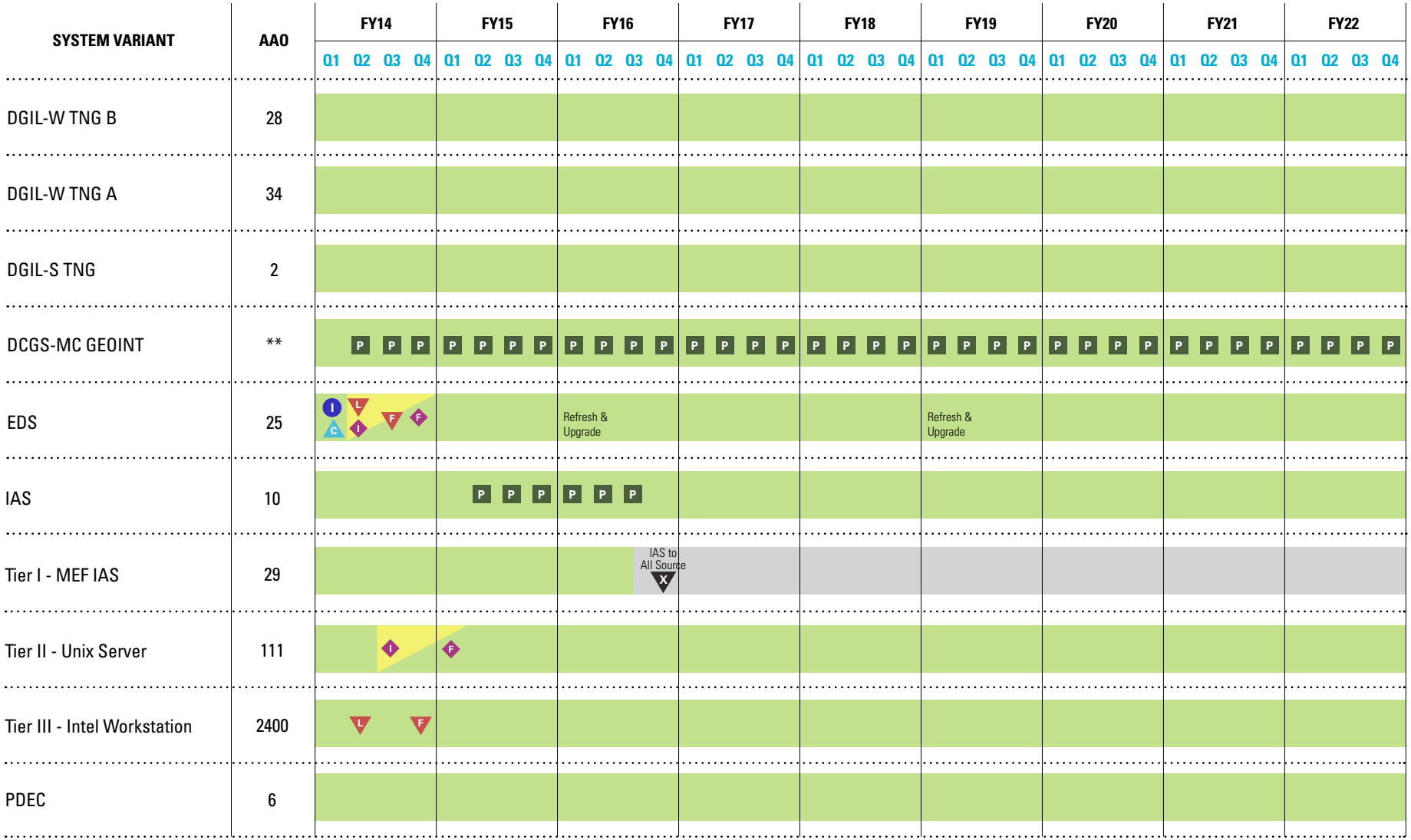
IOC / FOC

- IOC: Q4FY14
- FOC: Q2FY15

SPECIFICATIONS

Both TEG and TPC maintain their current AAOs as legacy programs. In FY16 DCGS-MC will move towards a common HW/SW configuration which may alter the current TAMCNs and its related AAO.

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TEG-M	4													TEG to GEOINT X																							
TEG-EWS	32	P V10.0.2	P	P	P	P	P	P	P	P	P	P	P																								
TEG-RWS	180																																				
SEES	15	P V4.1	P	P	P	P	P	P	P	P	P	P	P																								
TEG-RWS TNG	31																																				
TPC Set*	3	P V4.1.4	P	P V4.1.5	P	P V4.1.6	P	P V4.2.0	P	P V4.2.1	P	P V4.2.2	P	TPC to Inc 1 X																							
TGIL	7																																				
DGIL-S	21																																				
DGIL-W	68																																				
DTAMS	71																																				
DTAMS-L	79																																				
GSS	14																																				


SYSTEM VARIANT
AAO
FY14
FY15
FY16
FY17
FY18
FY19
FY20
FY21
FY22
Q1 Q2 Q3 Q4
DGIL-W TNG B
28
DGIL-W TNG A
34
DGIL-S TNG
2
DCGS-MC GEOINT
**
P
EDS
25
I
C
L
I
F
F
Refresh & Upgrade
Refresh & Upgrade
IAS
10
Tier I - MEF IAS
29
IAS to All Source
X
Tier II - Unix Server
111
Tier III - Intel Workstation
2400
PDEC
6

NOTES:

- TEG has recently refreshed all variants and will not refresh again until integration into DCGS-MC GEOINT in FY16.
- * TPC is currently conducting its final refresh before integration into DCGS-MC GEOINT in FY16.
- ** DCGS-MC GEOINT AAO will consist of the TEG and TPC AAO.

KEY/LEGEND

Production

- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities

- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing

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Status

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- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones

- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

Group 1 Small Unmanned Aircraft System (UAS)

IMPACT STATEMENT: The Group 1 Family of Small UAS is a critical component of the USMC UAS Family of Systems (FoS) supporting regiments, battalions, and below with an organic Reconnaissance, Surveillance and Target Acquisition (RSTA) capability that delivers near real time intelligence products to tactical commanders.

PROGRAM OVERVIEW

DESCRIPTION: The Group 1 Family of Small Unmanned Aircraft includes Wasp, RQ-11B Raven B, and Puma as the lower tier of the USMC UAS Family of Systems. Wasp and Puma are not part of the official program of record, were procured using Overseas Contingency Operations funding, and will be deleted from the inventory as they attrite. Organic to select regiments and battalions from the GCE, LCE, and ACE, Ravens are typically employed at the company level and below to provide day / night RSTA for small units across the range of military operations. Each Raven system includes a laptop-based ground control station and a number of Raven unmanned aircraft.

CAPABILITY: RQ-11 Raven is a hand launched, deep stall recovered line-of-sight small UAS capable of operation by one or two Marines. It provides the small unit commander with a day / night "around the corner, over the hill" surveillance, reconnaissance and target acquisition capability.

REQUIREMENT: The MROC approved Small Unit Remote Scouting System (SURSS) Operational Requirements Document (ORD) as the current capabilities requirement document for USMC Group 1 UAS Capabilities. The JROC approved the United States Special Operations Command (USSOCOM) Rucksack Portable UAV (RPUAV) ORD and the acquisition program passed Milestone III. System performance of the USMC Group 1 UAS will be identical to that described in the USSOCOM RPUAV ORD dated 24 August 2004. Therefore, the Marine Corps adopted the approved SOCOM ORD and began acquisition of the SOCOM system in 2006.

PROGRAMMATIC RISK AREAS / ISSUES

- Group 1 has been underfunded and OCO-reliant.
  - OCO funds have been used to sustain the POR since 2006.
  - Base budget is insufficient to sustain any Group 1 capability - Raven-only POR capability substantially degraded within 2-3 years with current budgetary actions.
  - Over 135 Wasp III, IV, and Puma systems will be unsupportable once OCO funding is not available and these systems will not be replaced once attrited.
- USMC relies on US Army as the procurement and acquisition agent for the RQ-11B. The Army is upgrading its Raven systems to a gimbaled turret assembly and in order to maintain the Marine Corps must fund the gimbaled payload or risk having to support an obsolete, fixed camera payload.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

N / A

RELATIONSHIPS WITH OTHER PROGRAMS

All Group 1 systems use a common ground control station.

AAO

- Original AAO was 467 systems
- 202K Marine Corps increased AAO to 483 systems
- FSRG reduced AAO to 440 systems

IOC / FOC

All Raven systems have been fielded.

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
RQ-11B RavenB	440																																		
Wasp III & IV	135*																																		
RQ-20 Puma	10**																																		

NOTES:

- * Mix of Wasp III and IVs bought/acquired ISO operations in OIF/OEF. Both Wasp types are non programs of record and will not be logistically supported after return from OEF.
- ** Puma originally acquired in response to Urgent UNS for route clearance missions and MARSOC requirements. As in the case of the Wasp, Puma is not a program of record and will be attrited and not replaced upon return from OEF.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
- P — Software Patch
- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
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JCIDS Milestones
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Public Affairs (PA)

IMPACT STATEMENT: Public Affairs (PA) Marines via Public Affairs Systems provide the MAGTF with the capability to research, understand and affect the information environment. PA Systems enable Marines to conduct information environment research, provide command counsel, support crisis communication and issue mitigation, and acquire, produce, transmit and disseminate multimedia communication products supporting integrated communication strategies to engage key domestic and foreign publics. PA Marines create non-kinetic effects at the tactical level through key leader, community, media, and social media engagement; and at the operational level and strategic levels by creating a higher level of understanding and confidence for key publics in the unique capabilities of the MAGTF and its Marines.

PROGRAM OVERVIEW

DESCRIPTION: Public Affairs (PA) via Public Affairs Systems (PAS) provides the MAGTF and the broader Marine Corps the capability to research the information environment and engage key publics via multimedia communication products and live engagements in support of integrated communication strategies.

CAPABILITY: PAS, independent of the tactical network, facilitates research of the information environment; acquisition of video and still imagery; conduct of live media engagements; production and dissemination of communication products; and analysis of effectiveness of communication strategies.

REQUIREMENT: PAS CPD Inc 1 (pending final signature); JPA ICD w/ MROC Memorandum (18 July 2011); PA SON (18 February 2011).

PROGRAMMATIC RISK AREAS / ISSUES

Funding issues with sustainment of DVIDS (Media Marketing / Analysis) capability, hinders keeping pace with evolving COTS technology

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- Engage target audiences (key publics)
- Battlespace awareness (understanding of information environment)

Mitigates the following gaps:

- Researching the information environment
- Engaging target audiences (key publics)
- Data transmissioN / data sharing across the MAGTF

RELATIONSHIPS WITH OTHER PROGRAMS

PAS provides Commanders a unique capability to communicate with key publics independent of tactical network infrastructure, limiting its reliance on other programs, while enabling the Marine Corps to communicate its value to global stakeholders.

AAO

- Public Affairs Video Editing System (PAVES) (A7200): 453
- Public Affairs Video Acquisition System (PAVAS) (A7202): 35
- Public Affairs Still Acquisition System (PASAS) (A7203): 338
- Public Affairs News Link System (PANLS) (A7204): 44
- Public Affairs Secondary Transmission System (PASTS) (A7206): 63

IOC / FOC

- IOC - FY 2007
- FOC -Q4 FY 2008 (PA SON 18 February 2011)

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
PAVES (A7200)	453	P	P	P	P	P	P	P	P	P	P	P	P	(v)1.1 - MCIPAD P R: 100%				P	P	P	P	P	P	P	P	(v)1.2 P R: 100%				P	P	P	P	P	P	P	P
PAVAS (A7202)	35													Capabilities inherited by A7200 v1.1																							
PASAS (A7203)	338													Capabilities inherited by A7200 v1.1																							
PANLS (A7204)	44	(v)1.0.1 R: 100%												R: 20%				R: 20%				R: 20%				R: 20%				R: 20%				R: 20%			
PASTS (A7206)	63	(v)1.0.1 R: 100%												R: 20%				R: 20%				R: 20%				R: 20%				R: 20%				R: 20%			

NOTES:

In FY17 A7200 will assume a greater role within PAS providing commanders a single, integrated handheld device capable of PA research and planning, still and video imagery acquisition, media analysis, cloud-based product approval workflow, and limited transmission capability.

KEY/LEGEND

Production
- L — LRIP: Low-Rate Initial Production
- F — FRP: Full-Rate Production
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- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
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JCIDS Milestones
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RQ-7B Shadow Unmanned Air System (UAS)

IMPACT STATEMENT: The RQ-7B is the largest of the USMC Family of Unmanned Aircraft Systems and has been in service since replacing the Pioneer in 2007. Although technically a joint Group 3 system, it fills the Marine Corps Group 4 requirement until a true Group 4 or 5 system is acquired in the future. Shadow gives the MEF or joint commander a day and night UAS capability with the carrying capacity for additional payloads requiring a larger UAS. Shadow is rail launched and recovers to an expeditionary runway. The addition of a laser designator and a small precision weapon will make the Shadow a more capable offensive weapon for the tactical commander.

PROGRAM OVERVIEW

DESCRIPTION: RQ-7B UAS consists of four air vehicles (each configured with an EO/IR sensor payload with LD capability), launcher, ground control station, attrition engine, and support equipment including: power generation, communications equipment, automated recovery equipment, remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles. Each system is equipped with one Maintenance Section Multifunctional Vehicle and is supported by a Mobile Maintenance Facility.

CAPABILITY: The RQ-7B Unmanned Air System (UAS) provides dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection, and Laser Designation (LD) of targets of interest. The RQ-7B shares the same system baseline configuration as the Army's TUAS Program of Record, commonly referred to as the Shadow UAS.

REQUIREMENT: MROC DM 10-2007: Approved procurement of Shadow 200 UAS to replace the logistically unsupportable RQ-2B Pioneer, in service since 1986.

- Directed the reorganization of the Marine Unmanned Aerial Vehicle Squadron to support Shadow detachment CONOPS.
- The Army Tactical UAV (TUAV) ORD serves as the base JCIDs documentation for USMC procurement of the Shadow UAS Capability.

PROGRAMMATIC RISK AREAS / ISSUES

N / A

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 3.2 - Engage targets
- 5.2 - Achieve Situational Awareness
- 5.6 - Disseminate Information
- 2.5 - Disseminate and Integrate Intelligence
- 2.2 - Collect Data and Information to Develop Intelligence

Mitigates the following gaps: N / A.

RELATIONSHIPS WITH OTHER PROGRAMS

- Shadow is fully common with the Army's Shadow and will be upgraded to a Tactical Common Data Link configured system.
- Shadow uses the AAI Universal Ground Control System (UGCS), also common with the Army and able to command and control Shadow, MQ-1C Gray Eagle UAS.

AAO

There are 13 systems: three per active component VMU, three to a reserve component VMU and one system for test and evaluations.

IOC / FOC

- IOC: 2007
- FOC: 2011

SPECIFICATIONS

- Length: 11.2 ft
- Wingspan: 14 ft
- Height: 3.3 ft
- Empty weight: 186 lb
- Gross weight: 400+ lb (rewing Shadow weight as much as 580 lbs.)
- Maximum speed: 127 mph
- Cruising speed: 81 mph
- Range: 68 mi Endurance: 6 h/ 9 h Increased Endurance
- Service ceiling: 15,000 ft ELOS (Electronic Line Of Sight)

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
RQ-7B	13																																				

NOTES:

All USMC RQ-7B shadow systems delivered between 2007 and 2012. TCDL upgrades start approximately 2014. Test schedule and funding will dictate end of TCDL upgrade fielding.

KEY/LEGEND

Production
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RQ-21A Small Tactical Unmanned Aircraft System (STUAS)

IMPACT STATEMENT: The RQ-21A will be the mainstay of the USMC's UAS arsenal for the near future. It is a highly expeditionary, multi-mission platform specifically designed to provide tactical level ISR to commanders at the regimental level and below. It will accept and employ technically emerging payloads such as SIGINT, EW, precision weapons guidance and communications relay to the MAGTF. RQ-21A requires less than 20 Marines to operate for extended period of time and includes Intelligence Marines to provide rapid interpretation of the intelligence collected by the system directly to the supported commander.

PROGRAM OVERVIEW

DESCRIPTION: The RQ-21A STUAS is a joint Group 3 UAS and is the middle tier of the USMC UAS Family of Systems. Organic to the Marine Unmanned Aerial Vehicle Squadron (VMU), the RQ-21A is a runway independent system that provides MEUs, regiments and subordinate echelons with a sea- and land-based, day / night, multi-INT reconnaissance, surveillance, target acquisition and communications relay capability across the range of military operations. The system travels in four HMMWVs with trailers and includes two ground control stations, two intelligence workstations, launch / recovery and support equipment and five unmanned aircraft with modular mission payloads. The RQ-21A has line of sight range up to 50 nautical miles and 10+ hours of endurance depending on its configuration and payload weight.

CAPABILITY: Provides the tactical level commander an organic, tactical-level ISR asset capable of day and night ISR and multi-INT missions. The standard payload for the RQ-21A will be a highly accurate electro-optical/infrared full motion video sensor, laser range finder, communication relay for UHF and VHF(FM) frequencies. RQ-21A operates both from land or amphibious ships using the same equipment and is designed to be highly mobile on the battlefield.

REQUIREMENT: Derived from multiple UUNS in 2004 & 5. Program has JROC approved ICD, CDD and CPD.

PROGRAMMATIC RISK AREAS / ISSUES

Various budget cuts over several POM cycles have delayed Initial Operational Capability date by two years and stretched Final Operational Capability to outside the POM 15 FYDP.

Further cuts could possibly increase costs and endangers program viability due to the relatively small program buy.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 2.2 - Collect Data and Information to Develop Intelligence
- 2.5 - Disseminate and Integrate Intelligence
- 3.2 - Engage Targets
- 5.2 - Achieve Situational Awareness
- 5.6 - Disseminate Information

Mitigates the following gaps: N / A

RELATIONSHIPS WITH OTHER PROGRAMS

- RQ-21A's ground control station incorporates several C2 programs such as the Marine Corps' Distributed Common Ground System (DCGS-MC), Navy's Tactical ISR PED system (TIPS), Link 16, Naval Unified Targeting System (NUTS), and the VMU Tactical Operations Center (TOC).
- RQ-21A will be fully integrated aboard the LPD and LHA / Ds.

AAO

32 systems; 9 per active component VMU, currently three to a reserve component VMU and two systems for test and evaluations.

IOC / FOC

- IOC: Q2 FY14
- FOC: FY22

SPECIFICATIONS

Weight: 135 MGTOW

Length: 7.2 ft.

Wing span: 16 ft.

Cruise speed: 55 knots

Dash speed: 80+ knots

Endurance: 10+ hours (15 hours demonstrated)

Max ceiling: 15,000 ft.

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
STUAS Early Operational Capability (EOC)	2*																																		
RQ-21A STUAS	32**	I	I	F	2				3				4				2				2				3				4				4	F			4

NOTES:

- * Two EOC systems not part of AAO of 32 systems. Systems delivered in late 2011 - early 2012 for system exploration and payload integration.
- ** Three RQ-21A systems remain outside of POM 18 to complete AAO of 32 systems.
- RQ-21A MS C 3QFY13, LRIP 4QFY14, FRP 4QFY14, IOT&E 1QFY14.

KEY/LEGEND

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Operational Capabilities
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Sensitive Compartmented Information Communications (SCI COMMS)

IMPACT STATEMENT: SCI COMMS is the conduit for Marine Corps Signals Intelligence (SIGINT) operations ashore and the focal point of moving secure data between MAGTF, theater, and national level assets to ensure battle space awareness. SCI COMMS has team level, mobile, and fly-away systems that provide the MAGTF commander with SCI communications, both JWICS and NSANET, that supports fully integrated information sharing, intelligence collection and analysis capabilities.

PROGRAM OVERVIEW

DESCRIPTION: SCI COMMS provide MAGTF Commanders dedicated palletized and team-level secure data and voice communications that can receive, transmit and disseminate Top Secret SCI level bulk data and imagery products from and to national tactical intelligence sources. It is the only deployable communications system that provides dedicated access to intelligence information classified TOP SECRET SCI. The systems provide USMC tactical commanders with high-capacity, near-real-time (NRT) access to intelligence from national agencies, joint and service activities, intelligence producers, and other tactical units using Satellite Communication (SATCOM) terminals.

CAPABILITY: SCI COMMS provides the Divisions, MAWS, Radio Battalions, Intel Battalions, and MARSOC with a JWICS and NSANET communications capability. This capability enables automated Intelligence dissemination and supports SIGINT collection, processing, analysis, and reporting across the MCISR-E and into the Global Information Grid (GIG) from the team level to the OCE, OCAC, IOC, and national levels supporting various sized MAGTF Command Elements. SCI COMMS provides the conduit for the MAGTF Commander to transmit, receive, and store communications and intelligence data for use in the operational planning process.

REQUIREMENT: ORD, Aug 2006; Trojan SPIRIT O&O, 24 Jan 2008; CD&I letter of clarification to Trojan SPIRIT O&O, 19 Aug 2008; ECCS O&O, 25 Sep 2008; JROC Memorandum 110-08.

PROGRAMMATIC RISK AREAS / ISSUES

Funding supports the sustainment of 50% of the AAO. That equipment not sustained will be utilized until no longer functional and then disposed of.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 2.5 - Disseminate & Integrate Intelligence (2.5.2 Convey Intelligence Products)
- 5.6 - Disseminate Information (5.6.1 Imagery)
- 6.1 - Transport Information End to End (6.1.1 Transmit Information)
- 6.2 - Provide Enterprise Services (6.2.3 Provide Collaboration Services)
- 6.3 - Optimize Networks (6.3.4 Cyber Management)

Mitigates the following gaps:

- Primary Gap I.05-03-G1 Limited Ability to Disseminate Intelligence. Mitigates gap by providing the sole USMC materiel solution authorized to provide dedicated high-bandwidth SCI-level data communications to the tactical commander.
- Primary Gap I.03-04-G2 Limited Ability to Identify Time Critical Information

RELATIONSHIPS WITH OTHER PROGRAMS

SCI COMMS + Technical Control and Analysis Center (TCAC) + Tactical SIGINT Collection System (TSCS) + Communications Emitter Sensing and Attack System (CESAS) = Integrated Signals Intelligence/Electronic Warfare capability.

AAO

- A03667G SCI COMMS ECCS SCIK (Team) = 59
- A03567G SCI COMMS HBSI-MT (Mobile) = 20
- A09217G Trojan Lite (Palletized) = 30

IOC / FOC

- SCIK: IOC – 3RD QTR FY14; FOC - 1ST QTR FY15
- PALLETIZED: IOC - 4TH QTR FY14; FOC – 2ND QTR FY15

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
SCIK	59	F		I		F																														
HBSI-MT	20	F			I		F																													
Palletized	30	F			I		F																													

NOTES:
Current Palletized Solution was fielded in 2006 and reaches end of life in FY16. There is not currently a mobile system fielded. An UUNS solution is currently fielded in a limited number for the team level solution.

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Technical Control & Analysis Center (TCAC)

IMPACT STATEMENT: TCAC is the nerve center of Marine Corps Signals Intelligence (SIGINT) operations ashore, afloat, and reach back in garrison. TCAC is a fly-away operational system that provides the MAGTF commander with a fully integrated SIGINT processing, analysis, and reporting capability. Its modular design is scalable to allow a wide variety of configurations at all echelons of command from the battalion to the MEF.

PROGRAM OVERVIEW

DESCRIPTION: TCAC is a commercial-off-the-shelf (COTS), deployable, self-contained system providing SIGINT processing and analysis supporting Intelligence Preparation of the Battlefield (IPB) and the Common Operating Picture (COP).

CAPABILITY: TCAC provides the Radio Battalions, MARSOC, and VMAQ squadrons with an automated SIGINT processing, analysis, and reporting system. TCAC provides access to the NSA domain and can be used in a standalone configuration or interconnected via Local Area Network (LAN). TCAC automatically stores, retrieves and plays back digital voice files; provides termination of national, theater, and tactical data networks; and provides SIGINT analysis applications to deployable MAGTF units.

REQUIREMENT: ORD, 19 Apr 1993; UUNS for ONEROOF, 7 Apr 2006; TERPES merger letter, 22 May 2007; JROC Memorandum 110-08; CD&I letter of clarification to TCAC ORD, 19 May and 27 Sep 2011.

PROGRAMMATIC RISK AREAS / ISSUES

Funding supports the sustainment of 50% of the AAO. That equipment not sustained will be utilized until no longer functional and then disposed of.

POM-15 MARINE CORPS ENTERPRISE INTEGRATION PLAN (MCEIP) ASSESSMENT

Provides the following capabilities:

- 2.1 - Plan & Direct Intelligence Operations
- 2.3 - Process & Exploit Collected Information
- 2.4 - Produce Intelligence
- 2.5 - Disseminate & Integrate Intelligence (2.5.1 Store Intelligence Products)
- 5.6 - Disseminate Information (5.6.2 Tracking Friendly & Adversary Units)
- 7.1 - Prevent Attack (7.1.1 Develop Protection Plan)

Mitigates the following gap:

- Primary Gap I.03-04-G2 Limited Ability to Identify Time Critical Information

RELATIONSHIPS WITH OTHER PROGRAMS

TCAC + Tactical SIGINT Collection System (TSCS) + Communications Emitter Sensing and Attack System (CESAS) + SCI Communications (SCI COMMS) = Integrated Signals Intelligence / Electronic Warfare capability.

Additionally, the USB-ENTR is integrated in TCAC and provides for receipt of near real-time intelligence from the Intelligence Broadcast System (IBS).

AAO

- A26347G TCAC Remote Access Workstation (RAWS) = 56
- A26287G TCAC Trans Workstation (TWS) SCI = 336
- A04277G TCAC TWS GENSER = 4
- A00927G TCAC Multi-Level Security System = 4

IOC / FOC

- TCAC 4.3: FOC - 2013
- TCAC 4.4: IOC - 2013; FOC - 2013
- TCAC 4.5: IOC - 2014; FOC - 2014

SPECIFICATIONS

N / A

SYSTEM VARIANT	AAO	FY14				FY15				FY16				FY17				FY18				FY19				FY20				FY21				FY22			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
TCAC 4.4(TCAC RAWS	56	F																																	
TCAC 4.5(TWS)	340	I			F																														
TCAC Next Generation System	-			B				C			F			I				F																	

KEY/LEGEND

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- U — Upgrade
- R — Refresh

Operational Capabilities
- I — IOC: Initial Operational Capability
- F — FOC: Full Operational Capability

Testing
- D — DT&E: Developmental Test and Evaluation
- I — IOT&E: Initial Operational Test and Evaluation
- F — FOT&E: Follow-On Operational Test and Evaluation
- M — MOT&E: Multi-Service Operational Test and Evaluation
- O — OT&E: Operational Test and Evaluation

Status
- Pre FOC
- Post FOC
- Not Fielded
- TRb — Transition Begins
- TRe — Transition Ends
- COLb — Collapse Begins
- COLe — Collapse Ends
- EoL — End of Life

JCIDS Milestones
- A — Milestone A
- B — Milestone B
- C — Milestone C
- X — Program Termination

APPENDIX C: ADVOCATE PLANNING TOOL FOR COMMAND ELEMENT EVOLUTION

The various Functional Areas that comprise the CE each have initiatives that will continue to evolve, according to each Functional Area OAG's vision. These initiatives are generally prioritized by each Functional Area's respective proponent with the intent to be executed in the near future. Below you will find each Functional Area OAG's top 3 "way-ahead" priorities as it stands for 2014:

ANGLICO

- Priority 1: Integrate and operate with joint / combined forces and Marine Corps Task 5.3.1.7 (Establish Liaisons) while being the liaison in a MAGTF Fires environment.
- Priority 2: Gain access to simulation devices such as the SAVT & DVTE to for T&R progression, currency, and proficiency with CAS, naval gunfire, and indirect MAGTF Fires.
- Priority 3: Gain access to live CAS sorties for T&R progression and TACP currency / proficiency in a live-fire environment.

C4

- Priority 1: Continue to improve / enhance Component of Systems Management; the capability that focuses on monitoring and managing the performance and quality of services in the tactical network.
- Priority 2: Enable the ability to anticipate and prevent successful attacks on data and networks.
- Priority 3: Provide access to global information transport services; the ability to transport information and services via assured end-to-end connectivity across the net-centric environment.

ELECTRONIC WARFARE (FORMERLY CYBER / EW)

Cyber:

- Priority 1: Organize USCYBERCOM Cyber Mission Force (13 teams made up of 373 Military, 155 Civilians and 51 Contractors).
- Priority 2: Develop policy directing the incorporation of Enterprise IT Service Management (EITSM) processes and tools across the Marine Corps to better clarify, guide and direct their implementation and application to include configuration management and IT asset management (integration between asset inventory management and asset management in support of network operations).
- Priority 3: Review and / or develop and validate doctrine and TTPs sufficient for establishing and / or updating training objectives for all aspects of Marine Corps Cyberspace operations.

EW:

- Priority 1: The MAGTF must have the personnel with expertise to operate and coordinate organic EMS assets, as well as non-organic EMS assets. As air and ground EW personnel are transitioned or programs are identified for continued sustainment, other occupational specialties should be identified to assume the responsibility for the Electronic Warfare functions and tasks.
- Priority 2: Establish an agile software development model for the EWSA and Cyber / EW coordination Cell software elements based upon the IT Box process, as described in the JCIDS manual, 19 January 2012. Deliverable EWSA software capabilities will be structure using the Requirements Definition Package (RDP) concept with the individual improvement increments delivered as the Capability Drop (CD).
- Priority 3: Adjust organizational construct to maximize effective use and employment of Electronic Warfare, define requirements, processes, capabilities and architecture to facilitate EWBM. The coordination of air and ground EMS operations will be accomplished via the CEWCC and JEMSO personnel where they can best synchronize desired effects. To ensure success, the CEWCC must be established with a small number of permanent staff that increases during deployments and other forward operations. Assign an organization to assume primary responsibilities for aviation based EW capabilities as the VMAQ squadrons are deactivated. CREW currently has no T/O supporting sustainment or employment, one must be identified in order to provide advocacy within the MAGTF EW enterprise.

MAGTF FIRES

- Priority 1: Supports Infantry OAG consideration to include digital fire support T&R events; consideration to link Digital MAGTF Fires operations E Coded events to Infantry and Artillery T&R; and consideration to revise MET 3.1 Employ Firepower in order to include digital operations that incorporate targeting-identifying digital outputs from the planning process that feed into a targeting board and that support a targeting board with its digital inputs and outputs at the MAGTF level (to include inputs from / outputs to a component or joint commander).
- Priority 2: Supports the development of a POI from MISTC to integrate systems with focus on Battalion FSCC seamless digital MAGTF Fires chain (sense, approve, execute) and supports the implementation of increased Simulator / Stimulator SISTIM digital MAGTF Fires scenario training for AFATDS/TLDHS from available AFATDS FSR.

- Priority 3: Supports further analysis of an actual MAGTF CE with Regimental FSCC to include the new CEWCC inclusion in the FSCC as part of the ITX scenario.

C-IED

- Priority 1: Support the Current Fight. In response to decreased force levels in the CENTCOM AOR. The first priority of the C-IED community of interest is continued support to sustain the momentum of the on-going C-IED fight in Afghanistan. As forces are drawn down, we must make certain that those Marine units that remain are properly trained, equipped and supported to achieve both tactical and operational success in countering the IED threat. Toward this end, we must ensure the C-IED enablers and associated support activities are fully synchronized with on-going drawdown efforts and are responsive, properly aligned and right-sized to support the mission requirements of the smaller more agile Marine security force assistance teams and MARSOC elements engaged in the CENTCOM AOR.
- Priority 2: Prepare for Future Threats. Given the global and increasingly complex nature of today's non-state and state-sponsored threat networks, the specter of IED attacks will continue to pose a significant threat to our forward deployed Marines in future contingency operations around the globe. IED construction methods and tactics, techniques and procedures (TTPs) for IED employment have proliferated far beyond the counter-insurgency battlefield of Afghanistan. But as the demand signal from the CENTCOM AOR diminishes, it affords the Corps' C-IED community of interest an opportunity to conduct outreach to other Combatant Commands (CCMDs), and to tailor C-IED solutions that meet the specific critical requirements that are unique to that GCCs AOR. The Marine Corps' C-IED Advocate will facilitate expansion of the C-IED aperture beyond current operations, enhance communications and information sharing, and promote collaboration and understanding of the evolving threat landscape.
- Priority 3: Holistic Approach to the IED Threat. The C-IED Advocate, in cooperation with MCWL's C-IED Division, will identify and explore new opportunities for proactive collaboration with the Services, Coalition and Allied Services, the S&T community, academia, and as authorized, other federal agencies, in an effort to leverage support and identify other U.S. Government sponsored C-IED initiatives. In summary, the C-IED OAG must lead the Corps' effort to strengthen existing partnerships with the Services and inter-agency C-IED stakeholders, and cultivate nascent partnerships / linkages with other external stakeholders in order to ensure C-IED capabilities are fully "mainstreamed" and institutionalized across the ROMO.

COMCAM

- Priority 1: Adapt and keep pace with current trends in information and apply innovation combined with expertise to attain an advantage in this fluid information environment.
- Priority 2: Continue to support the OPFOR and supporting establishments, thereby further enhancing the scope and scale of non-lethal capability.

IO

- Priority 1: Ability to provide trained IO billet holders and information related capabilities (IRC) SMEs within task organization enables integrated kinetic and non-kinetic means planning & application at all levels of the MAGTF.
- Priority 2: Ability to establish a baseline assessment of the physical, informational and cognitive dimensions within the information environment and better track effectiveness of information related capability actions to ensure the MAGTF commander's intent is being met.
- Priority 3: MAGTF task organized to conduct dynamic, deliberate and constrained (R2P2) IO planning, with appropriately cleared personnel, access to appropriate classified systems and programs, and sourced by personnel who have received TECOM approved training for applicable billets.

IM

- Priority 1: Update of MCWP 3.40-2 (Information Management).
- Priority 2: Pursue a C2 MOS, which would build Marines to meet the requirements of the IM FEA and other C2 FEA's; and
- Priority 3: Rewrite the C2 Training and Readiness Manual in March of 2013 to continue the move away from specific systems and into C2 skillsets.

LAW ENFORCEMENT

- Priority 1: Effectively "right size" MP manpower requirements to support both OPFOR and SE requirements.
- Priority 2: Establish materiel solutions and Program of Record for the Expeditionary Forensics Capabilities and Military Police materiel solution capabilities within CD&I.
- Priority 3: Effectively communicate revised MP capabilities to OPFOR Commanders and Planners and SE Commanders. (Revisions of doctrinal pubs, MP Strategic Communications Plans, MOS Road Map, etc.).

MCISRE

- Priority 1: Implement an MROC-approved MCISRE Plan to meet service missions and priorities.
- Priority 2: Complete integration of allied mission partners in Five-Eyes Plus environment across the Enterprise.
- Priority 3: Finalize plan and implement the strategy that clearly defines Marine Corps Intelligence Activity's role as the hub of the MCISRE.

MEU

- Priority 1: Amphibious Ready Group (ARG) / MEU / SOF Integration. A recent SOCOM-USMC wargame in April 2013 focused on ARG / MEU / SOF integration efforts. Service level OPTs in June 2013 continued the detailed planning for this effort. The desired end-state is a written concept for MEU and SOF integration and an identified proponent and method to link SOCOM / Theater Special Operations Command (TSOC) in the USMC force synchronization conference.
- Priority 2: ARG / MEU Visit, Board, Search, and Seizure (VBSS) enhancement pending GCC registered requirements for additive ARG / MEU VBSS capability. The specifics of VBSS enhancement are classified.
- Priority 3: Future MEU Employment. New Normal has highlighted the necessity for crisis response capability. The MEU is a premier crisis response force, but the Mission Essential Tasks (METs) have not changed since 2009. MEU OAG 13-1 ESC recommended a review of MEU METs, MEU equipment, and Naval command relationships based on New Normal and service level review.

OST&E

- Priority 1: Expeditionary Logistics
  - Sustain distributed operations in austere and remote environments
  - Energy efficiency
  - Potable water generation
  - Point-of-use energy generation
  - Integration of non-traditional platforms
- Priority 2: Interoperable C2 Systems
  - Multi-level classification
  - Joint, SOG and coalition interoperability
  - Integrated air/ground/see COP
  - Decentralized operations
- Priority: C2 Afloat
  - Coomunications from ship to shore
  - Distributed C2

PA/SC

- Priority 1: Improve understanding of PA capabilities as operational philosophy and employment as part of integrated application of the IRCs.
- Priority 2: Ensure sustainment of PAS and identify ways to leverage emergent technologies.
- Priority 3: Support efforts to identify and adapt a Marine Corps "enterprise" solution for information sharing.

RELIGIOUS MINISTRIES

- Priority 1: Continue to strengthen the force by advocating for the spiritual, moral, and ethical maturity and resiliency of Marines, Sailors and their families. This will be DONe by providing standardized ministry that seeks to develop Marines and Sailors of exemplary physical, mental, spiritual, and social character, who are prepared to successfully operate in and respond to the rigors, demands, and stressors of any environment.
- Priority 2: Engage with leadership by providing an effective means of collecting data, analyzing trends, and assisting RMTs in identifying measures of performance and effectiveness in order to advise Commanders in discerning tone of the force issues.
- Priority 3: Build the community by sustaining healthy active duty and reserve component chaplain and RP communities. This is accomplished through the sustained professional development of the RMT via established, standardized training requirements.

TECOM

- Priority 1: Sustain entry-level training excellence.
- Priority 2: Improve the decision-making ability of leaders at all levels.
- Priority 3: Enable Home-Station Training to ensure operating forces are able to function as MAGTF's in Joint environment.
- Priority 4: Develop and execute service-level training progress and assessments that support the readiness of MAGTFs to deploy in support of missions across the ROMO.

APPENDIX D: POM-16 MCCL TIER 2 DEFINITIONS

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
1.1	Force Management	The ability to integrate new and existing human and technical assets from across the joint force and its mission partners to make the right capabilities available at the right time and place to support national security. (JCA 1.1)	The capability to coordinate with DoD, DON, across the Joint Force and across the Marine Corps Total Force to configure, integrate, and execute Marine Corps force capabilities deployment and employment in support of National security.
1.2	Force Preparation	The ability to develop, enhance, adapt and sustain the total force to effectively support national security. (JCA 1.2)	The capability to prepare and develop the force to meet our National Security objectives through training and education; concept development and experimentation; alignment to service, joint, and multi-national doctrine; and refine the preparation by applying lessons learned from exercises and forward area operations.
1.3	Human capital management	The ability to ensure, within the life cycle management of total force human resources, the availability of highly motivated personnel equipped with required skill sets and capabilities to achieve mission success. (JCA 1.3)	The capability to recruit, develop, manage, and sustain the right quantities of highly proficient Marines and Civilian Marines with the necessary skill sets to fulfill our role as an expeditionary force in readiness. This includes Marines and Civilian Marines who are ready in mind, body, and spirit; and who meet the prescribed physical, mental, education, and training standards required for their billet or position.
2.1	Plan and direct Intelligence operations	The ability to synchronize and integrate the activities of collection, processing, exploitation, analysis and dissemination resources to meet ba information requirements. (JCA 2.1)	The capability to assist tactical Commanders in determining and prioritizing their Intelligence requirements (IR), to enable them to plan and direct Intelligence, counterIntelligence, and reconnaissance operations to satisfy these requirements. This task includes identifying, validating, and prioritizing IRs; planning and integrating collection, Production, and dissemination efforts; issuing the necessary orders, requests, and tasking to the appropriate Intelligence organizations; and conducting continuous supervision to ensure effective and responsive Intelligence support to current and future operations.
2.2	Collect data and information needed to develop Intelligence	The ability to gather data and obtain required information to satisfy Intelligence information needs. (JCA 2.2)	The capability to collect and gather combat data and Intelligence data to satisfy the identified requirements. To obtain information on the enemy's disposition of forces, composition of forces, strengths, recent and present significant activities, capabilities, and weaknesses or peculiarities. To collect information on the physical, military, and civil characteristics of the assigned area of operations.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
2.3	Process and Exploit Collected Information	The ability to transform collected information into forms suitable for further analysis and/or action by man or machine. (JCA 2.3)	The capability to convert collected data and previously Produced Intelligence into information forms suitable for the Production of Intelligence.
2.4	Analyze, Predict, and Produce Intelligence	The ability to integrate, evaluate, analyze, and interpret information from available sources to develop Intelligence and forecast the future state to enable situational awareness and provide actionable information. (JCA 2.4)	The capability to convert processed and exploited information and previously developed Intelligence into tailored, mission-focused Intelligence that satisfies the supported Commanders' Intelligence requirements through evaluation, integration, interpretation, analysis, and synthesis.
2.5	Disseminate and Integrate Intelligence	The ability to present, distribute, or make available Intelligence, information and environmental content and Products that enable understanding of the operational/ physical environment to military and national decision-makers. (JCA 2.5)	The capability to provide tactical Intelligence, in a timely way, in an appropriate form, and by any suitable means, to the Commander, higher, adjacent, and subordinate commands. Ensure that the Intelligence is understood and satisfies the Commander's requirement.
3.1	Maneuver Forces	The ability to move to a position of advantage in all environments in order to generate or enable the generation of effects in all domains and the information environment. (JCA 3.1)	The capability to move to a position of advantage in all environments in order to generate or enable the generation of effects in all domains and the information environment. This includes the capability to operate from amphibious shipping beyond the horizon to conduct forcible entry operations, conventional combat operations, and other operations in support of commanders' intent and end state.
3.2	Engage Targets	The ability to use kinetic and non-kinetic means in all environments to generate the desired lethal and/or non-lethal effects from all domains and the information environment. (JCA 3.2)	The capability to use kinetic and non-kinetic means in all environments to generate the desired lethal and/or non-lethal effects from all domains and the information environment. This includes the ability to plan, coordinate, and assess land based and sea-based kinetic and non-kinetic operations required to Produce the desired effects in support of the commanders' intent and end state.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
3.3	Combat Engineering	The ability to employ engineering capabilities and activities that support the maneuver of land combat forces and that require close support to those forces. Combat engineering consists of three types of capabilities and activities: mobility, counter mobility, and survivability. (JCA 4.6.2)	The capability to shape the physical battlespace to make the most efficient use of the space and time necessary to generate mass and speed while denying the enemy unencumbered maneuver. This includes engineering capabilities and activities that closely support the maneuver of combat forces. Combat engineering consists of three types of capabilities and activities: mobility, counter-mobility, and survivability.
4.1	Provide Deployment and Distribution Support	The ability to plan, coordinate, synchronize, and execute force movement and sustainment tasks in support of military operations. Deployment and distribution includes the ability to strategically and operationally move forces and sustainment to the point of need and operate the Joint Deployment and Distribution Enterprise. (JCA 4.1)	The capability provides the most effective and efficient throughput of supplies, equipment and personnel; Produces distribution feasibility estimates; and identifies or develops potential modes/sources of distribution to support strategic, operational and tactical mobility/movement to the point of need/point of use. This capability includes established strategic prepositioning capabilities such as MPF, MCPP-N, and MEU Augmentation Programs on an "as required" basis.
4.2	Provide Supply Support	The ability to identify and select supply sources, schedule deliveries, receive, verify, and transfer Product and authorize supplier payments. It includes the ability to see and manage inventory levels, capital assets, business rules, supplier networks and agreements (to include import requirements) as well as assessment of supplier performance. (JCA 4.2)	The capability to provide continuous resupply to ensure sustainment of operational readiness, decomposed into: (1) Identification and selection of supply sources; verification of Products received and delivered; and the ability to authorize supplier payments; (2) Asset visibility which facilitates USMC Enterprise inventory management and assessing supplier performance; (3) Storage operations (which includes special handling as required), or safekeeping of supplies and equipment in a ready-for-issue condition Other activities that this capability address beyond the "typical supply chain" are Forward-In-Stores, Principal-End-Item Rotations, Naval Logistics Integration, War Reserve, and seamless exchanges between CONUS and OCONUS in order to ensure all levels of operations are supported, from training to the battle-space.
4.3	Maintain Equipment	The ability to retain or restore materiel in a serviceable condition. (Derived from JCA 4.3)	The capability is comprised of MOSs, processes, facilities, personnel, and technologies to retain Marine Corps enterprise materiel and/or restore materiel to serviceable condition. Using units perform diagnostic/preventive organizational maintenance on assigned equipment and aircraft, which includes limited ability to recover and evacuate. The ACE and the LCE perform intermediate maintenance, which includes limited SecRep repair and timely mobile maintenance support to supported units. Major rebuild and overhaul support is provided from depot maintenance activities in the supporting establishment.
4.4	Provide Logistics Services	The ability to provide services and functions essential to the technical management and support of the joint force. (JCA 4.4)	The capability to provide basic logistics services and functions essential to the technical management and support of personnel, facilities, and equipment, including: messing, legal services, base camps, religious ministries, field exchanges, disbursing, detainees, displaced persons, EPW Holding, postal, recreational and mortuary affairs, in order to ensure sustainment of operational readiness.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
4.5	Provide Contracting Support	The ability to orchestrate and synchronize the provision of integrated contract support and management of contractor personnel providing that support to the joint force in a designated operational area. (JCA 4.5)	The capability to orchestrate and synchronize the provision of integrated contract support and management of contractor personnel providing that support to the Marine Corps enterprise in a designated operational area, inclusive of deployment support when coordinating external contract requirements during MEF and/or Joint Force operations.
4.6	Conduct General Engineering	The ability to employ engineering capabilities and activities, other than combat engineering, that modify, maintain, or protect the physical environment. Examples include: the construction, repair, maintenance, and operation of infrastructure, facilities, lines of communication and bases; terrain modification and repair; and selected explosive hazard activities. (JCA 4.6.1)	"The capability to enable freedom of maneuver through the application of emplacing and breaching obstacles/barriers as well as building and maintaining combat roads/trails, assault gap crossing, and landing zones [formerly mobility and counter-mobility]. This capability support force protection requirements by mitigating the effects of adversary weapons through position hardening and emplacing barriers that support stand-off [formerly survivability]. Expeditionary engineering enabling of basic logistic requirements of the MAGTF includes limited horizontal/vertical construction, power generation and distribution, bulk liquids storage, and a working understanding of infrastructure systems in order to adapt them for MAGTF use [formerly general engineering]. Expeditionary engineering ensures the MAGTF can operate in austere environments with organic capabilities typically for 0-6 months with limited external support to maintain operations.
4.7	Base & Installations Support	The ability to provide enduring bases and installations with the assets, programs, and services necessary to support US military forces. (JCA 4.7)	The capability to provide enduring bases and installations with assets, programs, and services necessary to support US Marine Corps forces.
4.8	Provide Health Services	The Ability to enhance DOD and our Nation's Security by providing health support for the full range of military operations and sustaining the health of all those entrusted to our care. (JCA 1.4)	Health Services Support (HSS) provides health maintenance, routine sick call, physical examination, preventive medicine, dental maintenance, record maintenance, and reports submission. The primary focus will be casualty management for providing quality, timely casualty care, and management of injured and/or ill forward-deployed Marines, Sailors and Local Nationals, which will likely include Pediatrics, Obstetrics / Gynecology (OB/GYN), Geriatrics, and management of Chronic Illness. Application of the most efficient use of life saving medical treatment, and forward resuscitative care as close to the point of injury as possible is essential to the stabilization of the patient so the patient can tolerate evacuation. HSS promotes wellness and ensures quality of life to strengthen the human component of military forces against disease and injury.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
5.1	Organize	The ability to align or synchronize interdependent and disparate entities, including their associated processes and capabilities to achieve unity of effort. (JCA 5.1)	The capability to establish and change formal organizational and command relationships in accordance with mission and task needs in a timely manner, as well as to use flexible organizational constructs that extend across multiple commands and organizations for task accomplishment and unity of effort. This capability includes establishing collaboration policies and procedures and integrating collaboration and liaison mechanisms with mission partners, including Joint, international, interagency, and multinational (JIIM) partners and organizations. Information managers assist by ensuring that boards, centers, cells, and other working groups are arranged in a battle rhythm with the appropriate attendance at each, working with the staff and G/S-6 to identify and plan for automated and manual methods of collaboration internal and external to the command, and developing the procedures necessary for the staff, LNO's, and partners to collaborate. This capability also allows the commander to ensure the right expertise exists on the staff, including personnel knowledgeable in such areas as cyberspace operations, identity operations (IdOps), military deception, EW, PA, combat camera, military information support operations (MISO), civil-military operations, etc. All elements of the MAGTF must be capable of participating in joint task force (JTF) operations. MEF Command Elements must be capable of leading joint and multinational operations and enable interagency activities.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
5.2	Understand	The ability to individually and collectively comprehend the implications of the character, nature, or subtleties of information about the environment and situation to aid decision-making. (JCA 5.2)	The capability to maintain understanding of the situation, which requires knowledge of the status of friendly forces, enemy forces and other threats, the neutral or civilian local population, and the nature of the area of operations (including physical domains, cyberspace, and the electromagnetic spectrum). Maintaining this knowledge requires timely receipt of collected and reported information from multiple nodes within the battlespace, and effective processing and management of that information. Knowledge and understanding are developed by analyzing and synthesizing relevant information, and applying context, experience, and intuition in order to effectively support the planning and direction of operations. This capability includes the ability to create, maintain, and access a common operational picture (COP) that presents current and forecast information. The "picture" is built by integrating and displaying processed information from sensors, analysts and other sources, and through collaborative analysis and assessment of relevant information. Situational awareness is required for planning, directing, and synchronizing all operations and activities, to include logistics operations, cyberspace operations, air traffic control, electronic warfare, kinetic and non-kinetic targeting, fire support coordination, engaging target audiences (individuals and key publics) through public affairs or information operations, and coordination with higher, adjacent, and other mission partners in the battlespace. Additionally, developing and maintaining adequate cultural awareness and regional expertise are foundational to achieving situational awareness. The GCE requires the capability to maintain continuous awareness at the squad-level and above. ACE and LCE units require awareness at levels equivalent to the GCE squad.
5.3	Conduct Planning	The ability to establish a framework to employ resources to achieve a desired outcome or effect. (JCA 5.3)	The capability to apply situational awareness and establish a framework to achieve the desired outcomes or effects required for mission accomplishment. The Marine Corps Planning Process provides a methodology (deliberate and hasty) for all elements of the MAGTF, inclusive of the Headquarters and Supporting Establishment, to plan operations across the ROMO. Leaders and decision-makers must be able to envision potential courses of action and determine the most effective ways of achieving the desired end-state using available resources. This involves wargaming and comparing COAs and assessing the risks and benefits associated with each. Planning capabilities are required to collaboratively decide COAs and synchronize actions among various lines of operation (logistics, ground combat, aviation, cyberspace, information operations, identity operations, (IdOps) CBRN defense, etc.) and to synchronize MAGTF operations with higher, adjacent, and mission partner organizations. Higher operational tempo, larger numbers of mission partners, and larger/more complex AORs may require more robust planning capabilities and capacities.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
5.4	Decide	The ability to select a course of action informed and influenced by the understanding of the environment or a given situation. (JCA 5.4)	The Marine Corps requires the capability to make a timely selection of the most appropriate course of action under the conditions within a given scenario.
5.5	Direct Execution	The ability to employ resources to achieve an objective. (JCA 5.5)	The capability to effectively communicate intent, guidance, plans, and orders to subordinate units and partner organizations, in order to achieve the desired end state in a synchronized and efficient manner. Successful direction of operations is dependent on other C2 and net-centric capabilities, particularly the ability to achieve and maintain situational awareness. Decision-makers must provide (and have access to) clear intent and guidance so that decisions can be made rapidly throughout execution, as the situation develops, and in reaction to emerging threats and opportunities. Well-established organizational structures, knowledgeable staff, and reliable communicatioN / collaboratioN / feedback mechanisms and procedures are critical to directing execution during crisis response missions, major conventional operations, or other operations with high operational tempo.
5.6	Monitor	The ability to adequately observe and assess events/effects of a decision. (JCA 5.6)	The capability to adequately observe and assess events/effects in order to gain the understanding required to support effective planning and decision-making.
6.1	Transport information	The ability to transport information and services via assured end-to-end connectivity across the NC environment. (JCA 6.1)	Marine Corps networks (across the enterprise) must provide the capability to transport (transmit and receive) information and services via assured end-to-end connectivity to commanders, leaders, decision makers and users of information at all echelons.
6.2	Provide Enterprise Services	The ability to provide to all authorized user's awareness of and access to all DoD information and DoD-wide information services. (JCA 6.2)	The Marine Corps requires the capability to provide authorized users at all echelons awareness of and access to information and information services in support of operational missions. Such information services include email, collaboration tools, search, discovery, and authorized access to content, the ability to post and otherwise share information, and access to enterprise software applications and computing services.
6.3	Manage Networks	The ability to configure and re-configure networks, services and the underlying physical assets that provide end-user services, as well as connectivity to enterprise application services. (JCA 6.3)	The Marine Corps requires scalable networks with the ability to operate global networks in a degraded, contested, compromised, or locally denied cyberspace environment in order to sustain mission effectiveness. The network will provide continuous, rapid, and error-free delivery of information and will be able to maintain service while under both physical attack and information attack. It should be engineered to be reliable and available, with redundancy built in to the architecture to preclude degradation and, be capable of dynamically rerouting services as nodes are incapacitated and/or as information flow requirements change. The network must be capable of obtaining additional resources as required to maintain or increase capacity. (Marine Corps Functional Concept for C2)

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
6.4	Provide Information Assurance	The ability to provide the measures that protect, defend and restore information and information systems. (JCA 6.4)	The Marine Corps requires the capability to monitor, protect, and defend information and information systems and ensure information availability, integrity, authentication, confidentiality, and non-repudiation. Information assurance activities provide end-to-end assurance that only validated information and information systems which have been accredited are connected to the Marine Corps Enterprise Network. Capabilities include the ability monitor and maintain situational awareness of the network, identify when unauthorized users attempt to gain access, respond to threats, provide security measures to ensure network integrity, and the ability to restore and recover networks, systems, and data.
7.1	Prevent Attack	The ability to prevent or deter attack, neutralize an imminent attack, or defeat attacks on personnel (combatant/non-combatant) and physical assets. (JCA 7.1)	The capability to prevent attack, while afloat or ashore, to ensure personnel and equipment are adequately protected.
7.2	Mitigate Effects	The ability to minimize the effects and manage the consequence of attacks (and designated emergencies) on personnel and physical assets. (JCA 7.2)	The capability to mitigate effects, while afloat or ashore, to ensure personnel and equipment are adequately restored and therefore available to conduct/ support expeditionary operations.
8.1	Engage Target Audiences	The ability to develop and present information to partner audiences (domestic and foreign) or to adversary/competitor audiences in order to improve understanding or to create, strengthen, or preserve conditions favorable for the advancement of United States Government interests, policies, and objectives. (Derived from JCA 8.1, 8.2, and 8.3)	The capability to develop and present information to domestic or foreign audiences (both partner and adversary) in order to improve knowledge and understanding within key publics or individuals, or to create, strengthen, or preserve conditions favorable for the advancement of United States Government interests, policies, and objectives. Audiences are engaged through the use of coordinated programs, themes, and messages synchronized with the actions of all instruments of national power. This capability includes activities related to understanding target audiences, planning target audience engagement, developing messages by collecting information and Producing message content, conveying the message, and assessing the effects relative to the commander's intent and desired end-state.
8.2	Shape	The ability to conduct activities with partner leaders, security institutions, and relevant populations to build defense relationships that promote shared global security interests, develop allied and friendly security capabilities for self-defense and multi-national operations, and provide U.S. forces with peacetime and contingency access to a host nation. (JCA 8.2)	The capability to assist domestic and foreign partners, industry and institutions with the development of their capabilities and capacities, to address U.S. national or shared global security interests and to relieve conditions that contribute to the instability of the partners. This includes the ability to train, advise, and assist foreign security forces and other government and civil industry and institutions in order to develop or improve their capabilities, or to improve information exchange and Intelligence sharing.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
9.1	Advisory & Compliance	The ability to provide advice, counsel, review, inspection and evaluation of policies, standards, systems, procedures and internal controls to ensure compliance with statutory and regulatory requirements and to propose changes to existing requirements. (JCA 9.1)	The capability to provide advice, counsel, and review of policies, standards, systems, and procedures applicable to the Marine Corps, the inspection and evaluation of Marine Corps policies, standards, systems, procedures, and internal controls in order to ensure compliance with statutory and regulatory requirements. This includes the capability to assess, direct, coordinate, and oversee the execution of policies, standards, systems, procedures, and internal controls within the Marine Corps and to propose to external agencies, any changes to existing statutory or regulatory requirements.
9.2	Strategy & Assessment	The ability to establish the direction and priority of activities that DoD must do in support of its Constitutional responsibilities. (JCA 9.2)	The capability to fulfill the Marine Corps' Title 10 mission by identifying, analyzing, validating, and prioritizing capability requirements at the enterprise level. This includes the development of policies and programs, the use of studies, analysis, assessments, and architecture, in support of the PPBE process.
9.3	Information Management	The ability to manage an organization's information resources for the handling of data and information acquired by one or many different systems, individuals, and organizations in a way that optimizes access by all who have a share in that data or a right to that information. (Derived from JP 3-0)	Information Management is the capability for the enterprise to provide the right information at the right time and in the right quantity for leaders to make correct decisions faster than the enemy. Information is a critical resource for the Marine Corps. Essential sub-elements of information management are the ability to harness the information lifecycle of creation, management, use, and ultimately archival or destruction of the information. Information Management contributes to a knowledge-enabled force that achieves decision and execution superiority. While all members of a given organization manage information, principal information management personnel include the Information Management Officers and staff. Information Management has traditionally been closely tied to Command and Control Functions. For the enterprise, DC D&I has been assigned information management advocacy in the role of Command Element Advocate.
9.4	Acquisition Technology	The ability to organize and execute the activities necessary to provide materiel for DoD operations. (JCA 9.4)	The Marine Corps requires the ability to rapidly acquire and organically/ collaboratively develop, test, and deploy solutions to emerging and legacy technical challenges throughout the Marine Corps.

MCCL NUM.	TITLE	JCA DEFINITION	MARINE CORPS DESCRIPTION
9.5	Program, Budget, & Finance	The ability to direct, supervise, provide advice, formulate policy, and conduct analysis on DoD program, budget, performance, and financial matters, pursuant to DoD strategic goals, objectives, priorities and approved strategies and policies. (JCA 9.5)	The capability to direct, supervise, provide advice, formulate policy, and conduct analysis on DoD program, budget, performance, and financial matters, pursuant to DoD strategic goals, objectives, priorities and approved strategies and policies. This includes the ability to conduct Program Objective Memorandum (POM) development based on both internal (USMC) and external (DON, DoD, Congress) factors and adjust as requirements shift, while attempting to adhere to desired capability investment plans. It also includes translating and distributing the budget in to appropriate financial codes pursuant with regulatory and statutory documentation and standards and tracking and accounting for all appropriations, authorizations, commitments, obligations, liquidations and expenses, within the USMC's Total Obligation Authority, according to proper financial code standards.

APPENDIX E: CE ADVOCATE MISSION STATEMENT RESPONSIBILITIES

As the CE Advocate, DC, CD&I shall review all Tables of Organization and Equipment (T/O&E) to identify any force structure changes to include the Mission Statement. A Mission Statement is required to be updated every four years to ensure that the stated requirements can lead to the accomplishment of the unit's mission.

GROUP	UNIT
Band	Marine Forces Reserve Band
Band	MARFORPAC Band
Band	III MEF Band MHG III MEF
CAG	3D CIV AFF GRP MARFORRES
CAG	4th CIV AFF GRP MARFORRES
Div	H&S CO AT BN 4th MARDIV MARFORRES
Div	SPT CO (-) AT BN 4th MARDIV MARFORRES
Div	SCT PLT SPT CO AT BN 4th MARDIV MARFORRES
Div	MG PLT SPT CO AT BN 4th MARDIV MARFORRES
Div	AT CO A AT BN 4th MARDIV MARFORRES
Div	AT CO B (-) AT BN 4th MARDIV MARFORRES
Div	3D PLT AT CO B AT BN 4th MARDIV MARFORRES
Div	AT CO C AT BN 4th MARDIV MARFORRES
Div	AT CO D (-) AT BN 4th MARDIV MARFORRES
Div	2D/3D PLT AT CO D AT BN 4th MARDIV MARFORRES
Div	AT CO E (-) AT BN 4th MARDIV MARFORRES
Div	2D/3D PLT AT CO E AT BN 4th MARDIV MARFORRES
Div	AT CO F (-) AT BN 4th MARDIV MARFORRES
Div	2D/3D PLT AT CO F AT BN 4th MARDIV MARFORRES
Div	DET 4th FORECON CO 4th MARDIV
Div	3D FORECON CO 4th MARDIV
Intel	Intel SPT BN MARFORRES
Intel	Hqtrs CO 4th GS PLT ISB MARFORRES
Intel	Hqtrs CO A ISB MARFORRES
Intel	CI PLT CO A ISB Hqtrs MARFORRES
Intel	HUMINT EXPLOIT PLT CO A ISB Hqtrs MARFORRES
Intel	Intel AFP CO A ISB MARFORRES
Intel	Intel Prod TM 1 CO A ISB MARFORRES
Intel	Intel Prod TM 2 CO A ISB MARFORRES

GROUP	UNIT
Intel	Intel Prod TM 3 CO A ISB MARFORRES
Intel	Hqtrs CO B ISB MARFORRES
Intel	Intel IIP CO B ISB MARFORRES
Intel	HST 1 CO B ISB Hqtrs MARFORRES
Intel	HST 2 CO B ISB Hqtrs MARFORRES
Intel	Intel AFP CO B ISB MARFORRES
Intel	Intel Prod TM 1 CO B ISB MARFORRES
Intel	Intel Prod TM 2 CO B ISB MARFORRES
Intel	Intel Prod TM 3 CO B ISB MARFORRES
Intel	Hqtrs CO C ISB MARFORRES
Intel	CI PLT CO C ISB Hqtrs MARFORRES
Intel	HST 1 CO C ISB Hqtrs MARFORRES
Intel	HST 2 CO C ISB Hqtrs MARFORRES
Intel	Intel AFP CO C ISB MARFORRES
Intel	Intel Prod TM 1 CO C ISB MARFORRES
Intel	Intel Prod TM 3 CO C ISB MARFORRES
Intel	Intel Prod TM 2 CO C ISB MARFORRES
Intel	HUMINT EXPLOIT PLT CO C ISB Hqtrs MARFORRES
Intel	2D Intel BN II MEF
Intel	Hqtrs CO 2D Intel BN II MEF
Intel	Prod & Analys CO 2D Intel BN II MEF
Intel	CI/HUMINT CO 2D Intel BN II MEF
Intel	Prod & Analys SPT CO 1ST Intel BN I MEF
Intel	CI/HUMINT SPT CO 1ST Intel BN I MEF
Intel	1ST Intel BN I MEF
Intel	Hqtrs CO 1ST Intel BN I MEF
Intel	Prod & Analys CO 1ST Intel BN I MEF
Intel	CI/ HUMINT CO 1ST Intel BN I MEF
Intel	3D Intel BN III MEF

GROUP	UNIT
Intel	Hqtrs CO 3D Intel BN III MEF
Intel	Prod & Analys CO 3D Intel BN III MEF
Intel	CI/ HUMINT CO 3D Intel BN III MEF
Intel	Prod & Analys SPT CO 2D Intel BN II MEF
Intel	CI/HUMINT SPT CO 2D Intel BN II MEF
MARFOR	Hqtrs MARFORCOM
MARFOR	MARFOR SOUTHCOM
MARFOR	H&S BN MARFORCOM
MARFOR	MCSCG MARFORCOM
MARFOR	Hqtrs MARFORRES
MARFOR	Hqtrs CO Hqtrs BN MARFORRES
MARFOR	H&S BN MARFORPAC
MARFOR	Hqtrs MARFORPAC
MARFOR	MARFOR NORTHCOM
MARFOR	MARFOR AFRICOM
MARFOR	MARFOR CENTCOM
MARFOR	MARFOR EUCOM
MARFOR	MARFOR STRATCOM
MARFOR	MARFOR KOREA
MCSF	Hqtrs CO MCSF REGT
MCSF	MCSF BN KINGS BAY MCSF REGT
MCSF	MCSF BN BANGOR MCSF REGT
MCSF	1st FAST CO MCSF REGT
MCSF	2D FAST CO MCSF REGT
MCSF	3D FAST CO MCSF REGT
MCSF	FAST CO CENTRAL MCSF REGT
MCSF	FAST CO EUROPE MCSF REGT
MCSF	MCSF TRNG CO MCSF REGT
MEB	CE 1st MEB I MEF
MEB	CE 2D MEB II MEF
MEB	CE 3D MEB III MEF
MEB	CE MEB MARFOR AFRICOM
MEB	CE MARFOR CENTCOM (FWD)
MEF	CE III MEF
MEF	CE II MEF
MEF	CE I MEF

GROUP	UNIT
MEU	CE 22D MEU II MEF
MEU	CE 26th MEU II MEF
MEU	CE 24th MEU II MEF
MEU	CE 11th MEU I MEF
MEU	CE 13th MEU I MEF
MEU	CE 31st MEU III MEF
MEU	CE 15th MEU I MEF
MHG	CE MHG II MEF
MHG	CE MHG I MEF
MHG	CE MHG III MEF
MP	Hqtrs CO LAW ENF BN I MHG I MEF
MP	MP CO A MHG I MEF
MP	MP CO A MHG I MEF
MP	MP CO C MHG I MEF
MP	Hqtrs CO Law Enf BN II MHG II MEF
MP	MP CO A MHG II MEF
MP	MP CO B MHG II MEF
MP	MP CO C MHG II MEF
MP	Hqtrs CO Law Enf BN III MHG III MEF
MP	MP CO A MHG III MEF
MP	MP CO B MHG III MEF
MP	MP CO C MHG III MEF
SOTG	SOTG MHG II MEF
SOTG	SOTG MHG I MEF
SOTG	SOTG MHG III MEF
SS	Site SPT (Campen) Hqtrs MARFORRES
SS	Site SPT (Rochester) Hqtrs MARFORRES
SS	Site SPT (Chicopee) Hqtrs MARFORRES
SS	Site SPT (Amityville) Hqtrs MARFORRES
SS	Site SPT (Brooklyn) Hqtrs MARFORRES
SS	Site SPT (Wash DC) Hqtrs MARFORRES
SS	Site SPT (Jackson) Hqtrs MARFORRES
SS	Site SPT (Bessemer) Hqtrs MARFORRES
SS	Site SPT (W Palm Beach) Hqtrs MARFORRES
SS	Site SPT (Mobile) Hqtrs MARFORRES
SS	Site SPT (Tallahassee) Hqtrs MARFORRES

GROUP	UNIT
SS	Site SPT (Amarillo) Hqtrs MARFORRES
SS	Site SPT (Lafayette) Hqtrs MARFORRES
SS	Site SPT (Anchorage) Hqtrs MARFORRES
SS	Site SPT (Alameda) Hqtrs MARFORRES
SS	Site SPT (Reno) Hqtrs MARFORRES
SS	Site SPT (Billings) Hqtrs MARFORRES
SS	Site SPT (Kaneohe) Hqtrs MARFORRES
SS	Site SPT (Bell) Hqtrs MARFORRES

APPENDIX F: REFERENCES

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- United States Marine Corps Science & Technology Strategic Plan (2013)

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- MCO 3900.15B (Marine Corps Expeditionary Force Development System), 10 Mar 2008

APPENDIX G: ACRONYMS

AAO	Approved Acquisition Objective
AC2S	Aviation Command and Control Systems
ACO	Airspace Coordination Order
ADAL	Authorized Dental Allowance List
AE	Assault Echelon
AEHF	Advanced Extremely High Frequency
AFATDS	Advanced Field Artillery Tactical Data System
AFOE	Assault Follow-On Echelon
AGL	Advocate Gap List
AMAL	Authorized Medical Allowance List
ANGLICO	Air Naval Gunfire Liaison Company
AOR	Area of Responsibility
ARG	Amphibious Ready Group
ASM	Application Security Module
AT/FP	Anti-Terrorism / Force Protection
ATH	At-the-Halt
ATO	Air Tasking Order
BDA	Battle Damage Assessment
BDE	Brigade
BFT	Blue Force Tracker
BLOS	Beyond Line of Sight
Bn	Battalion
BUMED	Bureau of Medicine and Surgery
C2	Command and Control
C2AOS	Command & Control Air Operations Suite
C2IS	Command & Control Information Services
C4	Command, Control, Communication, and Computers
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CA	Civil Affairs
CAC2S	Common Aviation Command and Control Systems
CAG	Civil Affairs Group
CAS	Close Air Support
CASEVAC	Casualty Evacuation
CBA	Capabilities Based Assessment
CCI	Controlled Cryptographic Item
CCIR	commanders' critical information requirements
CCRB	Course Content Review Board
CCS	Combat Camera Systems
CDD	Capabilities Development Directorate
CE	Command Element
CEAB	Command Element Advocate Board
CEC	Cooperative Engagement Capability
CEMAT	COMSEC Equipment Management Team
CESAS	Communications Emitter Sensing and Attack System
CEWID	Cyber Electronic Warfare Integration Division
CFT	Cross Functional Teams
C-IED	Counter-Improvised Explosive Device
CIP	Capability Investment Plan
CISAD	Combat Imagery Scalable Archive Database
CJCS	Joint Chiefs of Staff
CJCSI	Chairman, Joint Chiefs of Staff Instruction
CK	Commander's Kit
CMC	Commandant of the Marine Corps
CMO	Civil Military Operations
COA	Course of Action
COC	Combat Operation Center
CoC	Council of Colonels
COE	Concept of Employment
COI	Community of Interest
COIN	Counter Insurgency
COMCAM	Combat Camera
COMSEC	Communications Security Cables
CONDOR	C2 On-the-Move Network Digital Over-the-Horizon Relay
CONOPS	Concept of Operations
COP	Common Operational Picture
CPD	Capabilities Planning Document
CPM	Capability Portfolio Management
CREW	Counter RCIED (Radio-Controlled Improvised Explosive Device) Electronic Warfare
CRP	Command Religious Program

CS	Communication Subsystems
CSIS	Combat Still Imagery System
CSM	Communications Security Module
CTN	Composite Tracking Network
CTP	Common Tactical Picture
CVAS	Combat Video Acquisition System
CWMD	Conventional Weapons of Mass Destruction
CY	Calendar Year
DAGR	Defense Advanced GPS Receiver
DC PP&O	Deputy Commandant, Plans, Policies and Operations
DCGSMC	Marine Corps' Distributed Common Ground System
DDS-M	Data Distribution System-Modular
DECC	Defense Enterprise Computing Center
DEOS	Deployable End Office Suite
DIATS	Deployed Information Assurance Tools Suite
DINFOS	Defense Information School
DIRINT	Director of Intelligence
DISA	Defense Information Systems Agency's
DITS	Deployable Integrated Transport Suite
DM	Decision Memorandum
DMS	Defense Message System
DoD	Department of Defense
DoDD	Department of Defense Directive
DODI	Department of Defense Instruction
DON CIO	Department of the Navy Chief Information Officer
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities
DSID	Deployed Security Interdiction Devices
DSM	Data Storage Module
DTC	Digital Technical Control
DVIDS	Defense Video & Imagery Distribution Center
DVTE	Deployable Virtual Training Environment
DWTSROC	Digital WideBand Terrestrial System Required Operational Capability
ECCS	Expeditionary Command and Control Suite
EFDS	Expeditionary Force Development System
EHSS	Expeditionary Health Service Support
EKMS	Electronic Key Management Systems
EMO	Enhanced MAGTF Operations
EMOE	Electromagnetic Operational Environment
EMV	Enhanced Mojave Viper
EoIP	Everything Over IP
EOS	Executive Off Site
ESM	Enterprise Switch Module
EW	Electronic Warfare
EWBM	Electronic Warfare Battle Management
EWSA	Electronic Warfare Services Architecture
EWTGLANT	Expeditionary Warfare Training Group, Atlantic
EWTGPAC	Expeditionary Warfare Training Group, Pacific
FCT	Firepower Control Team
FD	Full Deployment
FDU	Full Deployment Unit
FFCC	Force MAGTF Fires Coordination Center
FIE	Fly-In Echelon
FMID	MAGTF Fires & Maneuver Integration Division
FOC	Full Operational Capability
FORG	Force Optimization Review Group
FoS	Family of Systems
FSC	Forward Surgical Companies
FSCC	Fire Support Coordination Center
FSRG	Force Structure Review Group
FY	Fiscal Year
G/ATOR	Ground / Air Task Oriented Radar
GBS	Global Broadcast Service
GCC	Geographic Combatant Commander
GCCS	Global Command and Control System
GEOINT	Geospatial Intelligence
GETT	Generator ECU Tent Trailer
GIG	Global Information Grid
GO	General Officer
GRF	Global Response Force
H2C2	Handheld Command & Control
HA/DR	Humanitarian Assistance / Disaster Relief
HASA	Headquarters and Supporting Activity

HC3	High-Capacity Communications Capability
HEMP	High-Altitude Electro-Magnetic Pulse
HMMWV	High Mobility Multi-Purpose Wheeled Vehicle
HQMC CD&I	Headquarters Marine Corps Combat Development & Integration
I&L	Installations and Logistics
IA	Information Assurance
IAM	Information Assurance Module
IAS	Intelligence Analysis System
IDD	IED Detector Dog
IM	Information Management
IO	Intelligence Operations
IPT	Integrated Planning Team
IRT	in reference to
IS-ICD	Information Systems Initial Capabilities Document
ISR	Intelligence, Surveillance, and Reconnaissance
ITEG	Integrated Trailer ECU Generator
ITEP	Intelligence Training Enhancement Program
ITX	Integrated Training Exercise
IW	Irregular Warfare
JBC-P	Joint Battle Command Platform
JCIDS	Joint Capabilities Integration Development System
JCL	Joint Capabilities List
JCS	Joint Chief of Staff
JCSE	Joint Communications Support Element
JCTI-G	Joint Cooperative Target Identification-Ground
JDEP	Joint Distributed Engineering Plant
JECCS	Joint Enhanced Communication Core System
JEMSO	Joint Electromagnetic Spectrum Operations
JFACC	Joint Force Air Component Commander
JFRG	Joint Forces Requirements Generator
JIIM	Joint Interagency Intergovernmental Multinational
JINTACCS	Joint Interoperability of Tactical Command and Control Systems
JITC	Joint Interoperability Test Command
JMET	Joint Mission Essential Task
JOPES	Joint Operational Planning and Execution System
JROC	Joint Requirements Oversight Council
JSS	Joint Services Support
JSTARS	Joint Surveillance and Target Attack Radar System
JTCW	Joint Tactical COP Workstation
JTF HQ	Joint Task Force Headquarters
JTRS	Joint Tactical Radio System
LAN	Local Area Network
LD	Laser Designation
LDC	Limited Deployment Capability
LDR	Low Data Rate
LDU	Limited Deployment Unit
LE	Law Enforcement
LEM	Law Enforcement Manuals
LEP	Law Enforcement Professional
LMST	Lightweight Multiband Satellite Terminals
LOC	Letters of Clarification
LPI/LPD	Low-Probability of Intercept / Detection
LSM	LAN Services Module
M&RA	Manpower and Reserve Affairs
MACCS	Marine Air Command & Control System
MACCS SP	Marine Air Command & Control System Sustainment Portfolio
MAGTF	Marine Air Ground Task Force
MAGTF-TC	MAGTF Training Command
MAIS	Major Automated Information System
MARCENT	Marine Corps Forces Central Command
MARCIMS	Marine Corps Civil Affairs Information Management System
MARCORSYSCOM	Marine Corps Systems Command
MARFORCOM	Marine Forces Command
MARFORPAC	Marine Corps Forces Pacific
MARFORRES	U.S. Marine Corps Forces Reserve
MARFORSOC	Marine Corps Forces Special Operations Command
MARFORSTRAT	Marine Corps Forces Strategic Command
MATCALS	Marine Air Traffic Control Automatic Landing System
MATCOM	Materiel Command
MAW	Marine Aircraft Wing

MC2SA	MAGTF Command and Control Situational Awareness
MCAS	Marine Corps Air Station
MCCES	Marine Corps Communications / Electronics School
MCCL	Marine Corps Capabilities List
MCCLL	Marine Corps Center for Lessons Learned
MCCMOS	Marine Corps Civil Military Operations School
MCDP	Marine Corps Doctrine Publication
MCEIP	Marine Corps Enterprise Integration Plan
MCEITS	Marine Corps Enterprise Information Technology Services
MCFDS	Marine Corps Force Development System
MCGL	Marine Corps Gaps List
MCHS	Marine Corps Common Hardware Suite
MCIA	Marine Corps Intelligence Activity
MCILR	Marine Corps Installations and Logistics Roadmap
MCIP	Marine Corps Interim Publication
MCISRE	Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise
MCLOG	Marine Corps Logistics Operations Group
MCMH	Marine Centered Medical Home
MCO	Marine Corps Order
MCPASE	Marine Corps Public Affairs Support Elements
MCPC	Marine Corps Program Code
MCRP	Marine Corps Reference Publication
MCSC	Marine Corps Systems Command
MCSC – SIAT	Marine Corps Systems Command – Systems Engineering, Interoperability, Architectures, & Technology
MCSELMS	Marine Corps Software Enterprise License Management System
MCSPD	Marine Corps Solutions Planning Directive
MCT	Marine Corps Tasks
MCTIMS	Marine Corps Training Information Management System
MCTL	Marine Corps Task List
MCTOG	Marine Corps Tactics and Operations Group
MCTSSA	Marine Corps Tactical Systems Support Activity
MCWL	Marine Corps Warfighting Laboratory
MCWP	Marine Corps Warfighting Publication
MDSS	MAGTF Deployment Support System
MEB	Marine Expeditionary Brigade
MET	Mission Essential Task
METL	Mission Essential Task List
MEU	Marine Expeditionary Unit
MHG	MEF Headquarters Group
MIC	MEF Intelligence Center
MILCON	Military Construction
MILSTD	Military Standards
MISO	Military Information Support Operations
MISTC	MAGTF Integrated Systems Training Center
MLG	Marine Logistics Group
MNS	Mission-Needs-Statement
MOS	Military Occupational Specialty
MOSA	Modular Open Systems Approach
MOU	Memorandum of Understanding
MROC	Marine Corps Requirements Oversight Council
MSA	Materiel Solutions Analysis
MSC	Major Subordinate Command
MSTP	MAGTF Staff Training Program
MSTPD	MAGTF Staff Training Program Division
MTVR	Medium Tactical Vehicle Replacement
MTVR	Medium Tactical Vehicle Replacement
MUOS	Mobile User Object System
NAS	Network Attached Storage
NAVMC	Naval Marine Corps
NCES	Net Centric Enterprise Services
NCO	Non-Commissioned Officer
NCR	National Capital Region
NECC	Navy Expeditionary Combat Command
NETOPS	Network Operations
NGEN	Next Generation Enterprise Network
NIPRNet	Non-classified Internet Protocol Router Network
NM	Network Management
NMCWFTs	Navy-Marine Corps Warfighter Talks
NOTM	Networking-on-the-Move

NPM	Network Planning and Management
NRT	Near Real-time
NSA	National Security Agency
NTA	Non-Traditional Agents
NUTS	Naval Unified Targeting System
NVSC	Night Vision System Camera
O&MMC	Operations & Maintenance, Marine Corps
OAG	Operational Advisory Group
OB/GYN	Obstetrics / Gynecology
OCO	Overseas Contingency Operation
OCR	Offices of Coordinating Responsibility
OEF	Operation Enduring Freedom
OGA	Other Government Agencies
OIF	Operation Iraqi Freedom
ONS	operational needs statement
OPFOR	Operating Forces
OPLAN	Operational Plan
OPR	Office of Primary Responsibility
OPT	Operational Planning Team
OST&E	Operating Force Science, Technology & Experimentation
OSTI	Office of Science, Technology and Innovation
OTH	Over-the-Horizon
OTM	On-the-Move
P&R	Programs and Resources
PA	Public Affairs
PANLS	Public Affairs News Link System
PAS	Public Affairs Systems
PASAS	Public Affairs Still Acquisition System
PAVES	Public Affairs Video Editing System
PDS	Processing and Display Subsystem
PED	Processing, Exploitation, and Dissemination
PEI	Principle End Items
PERSTEMPO	Personnel Tempo
PMC and O&MMC	Procurement Marine Corps, Operations and Maintenance Marine Corps
PME	Professional Military Education
PNCEB	Professional Naval Chaplaincy Executive Board
POE	Projected Operational Environment
POI	Period of Instruction
POM	Program Objective Memorandum
POR	Program of Record
PP&O	Plans Policies & Operations
PPB&E	Planning, Programming, Budgeting & Execution
PS	Security Division
PSL	Law Enforcement and Corrections
PTP	Pre-Deployment Training Program
PTUC	Participating Test Unit Coordinator
R&D	Research and Development
RadBn	Radio Battalion
RBE	Remain Behind Equipment
RCIED	Radio-Controlled Improvised Explosive Device
RDT&E	Research Development Test & Evaluation
RF	Radio Frequency
RIIKS	Receipt, Inventory, Imaging, Kitting and Shipping
RITC	Regional Intelligence Training Center
RM	Religious Ministry
RMP	Religious Ministry Professional
RMT	Religious Ministry Team
RO	Religious Organization
ROC	Required Operational Capability
ROMO	Range Of Military Operations
RPUAV	Rucksack Portable UAV
RRK	Rapid Response Kit
RSAM	Remote Subscriber Access Module
RSTA	Reconnaissance, Surveillance and Target Acquisition
S&T	Science & Technology
SAASM	Selective Availability Anti-Spoofing Module
SALT	Supporting Arms Liaison Team
SAN	Storage Attached Network
SATCOM	Satellite Communications
SAVT	Supporting Arms Virtual Trainer
SC	Strategic Communication
SDE	Shared Data Environment

SDS	Sensor Data System
SE	Supporting Establishment
SEIC	Systems Engineering & Integration Coordination
SEPCOR	Separate Correspondence
SIAP	Single Integrated Air Picture
SIAT	Systems Engineering, Interoperability, Architectures, & Technology
SIGINT	Signals Intelligence
SIOC	Signals Intelligence Officers Course
SIPRNet	Secret Internet Protocol Router Network
SISTIM	Simulator / Stimulator
SMART-T	Secure Mobile Anti-Jam Reliable Tactical Terminal
SNCO	Staff Non-Commissioned Officer
SOF	Special Operations Forces
SOTG	Special Operations Training Group
SPEED	System Planning, Engineering and Evaluation Device
SPMAGTF	Special Purpose Marine Air-Ground Task Force
SRW	Soldier Radio Waveform
STEP	Standard Tactical Entry Point
SURSS	Small Unit Remote Scouting System
SWC/IWID	Small Wars Center / Irregular Warfare Integration Division
T&R	Training & Readiness
T/E	Table of Equipment
T/O	Table of Organization
TAC	Tactical Air Communications
TACC	Tactical Air Command Center
TACP	Tactical Air Control Party
TAMCN	Table of Authorized Materiel Control Numbers
TBMCS	Theater Battle Management Core System
TCAC	Technical Control and Analysis Center
TC-AIMS	Transportation Coordinators' Automated Information for Movement System
TCAT	Type Commander's Amphibious Training
TCM	Tactical Communications Modernization
TCO	Tactical Combat Operation
TDES	Tactical Data Encryption System
TDM	Time Division Multiplexing
TDN	Tactical Data Network
TEAMS	Tactical Elevated Antenna Mast System
TECOE	Training & Education Center of Excellence
TECOM	Test and Education Command
TEEP	Training Exercise and Employment Plan
TEG	Tactical Exploitation Group
TFSD	Total Force Structure Division
TFSMS	Total Force Structure Management System
TGRS	Transportable Ground Receive Suite
TIM	Toxic Industrial Materiels
TIPS	Tactical ISR PED system
TIPS	Tactical Imagery Production System
TLDHS	Target Location, Designation and Hand-off System
TMIP	Theater Medical Information Program
TOC	Tactical Operations Center
TPC	Topographic Production Capability
TRANSEC	Transmission Security
TSC	Theater Security Cooperation
TSCS	Tactical SIGINT Collection System
TSM	Transition Switch Module
TSOA	Tactical Service Oriented Architecture
TSSE	Total Ship System Engineering
TTF	Transition Task Force
TUAV	Tactical UAV
TWTS	Terrestrial WideBand Transmission Systems
UAS	Unmanned Air System
UGCS	Universal Ground Control System
UHF	Ultra High Frequency
UPL	Unified Priority List
USMTF	U.S. Message Text Formats
USSOCOM	United States Special Operations Command
VACM	VINSON / ANDVT Crypto Modernization
VMF	Variable Message Format
VMU	Marine Unmanned Aerial Vehicle Squadron
VSAT	Very Small Aperture Terminal
WB THHR	wideBand tactical handheld radio

WFNS	Warfighter Network Services Strategy
WGS	Wideband Global SAT COM
WNW	WideBand Networking Waveform
WRS	War Reserve System
WSM	WAN Services Module
XDR	Extended Data Rate